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I

THE YALE COLLEGE CURRICULUM[1]
1701-1901

Yale University is about to celebrate the two hundredth anniversary of the granting of the charter to Yale College in 1701. At this coming celebration much attention will be given to the portrayal of Yale's growth as an educational institution from its meager beginnings as a colonial and denominational school to a leading American university. The life and influence of a large number of American scholars, the progressive development of the country's intellectual life, and, in fact, the development of its social and political life are involved in that story.

The following pages aim to treat of but one phase of Yale's history, namely the evolution of its undergraduate academical course of study from the simple instruction in a few limited fields of study open to the college student of the early eighteenth century, to the bewildering mass of courses offered nowadays in a great variety of departments of knowledge. In following the thread of this development we are obliged to confine ourselves to the college, the academical department, the kernel of the institution, and leave almost out of account the striking growth of instruction in the professional schools, and in the Sheffield Scientific School, except in so far as the rise of these schools has reacted upon the college curriculum.

[1] I am under obligations to Mr. Franklin B. Dexter of the Yale University library for much information regarding the College curriculum of the eighteenth century. Otherwise the following pages are based on the college records and on such material as President T. D. Woolsey's *Historical discourse* (New Haven, 1850).

The history of the Yale College curriculum, as we view it, is the history of the successive text-books used by the students in the classroom, and of the gradual, and of late the rapid, growth of the so-called elective system. From these two related points of view the history of the Yale curriculum is the story of a mediæval workshop, with its limited range of simple tools, all of which the apprentice learned to master, developing into a modern factory, well equipped with a large stock of tools and machinery, no two of them alike in their construction or use, many of them delicate and complicated, and few of them fully understood and manipulated by all the employees of the shop. It is the story of the gradual and often timid adoption of a new tool, the discarding of some of the old ones, the importation of foreign machines, the rise of the toy to the dignity of the tool, and, in general, of the approach of the master to the conviction that his apprentice is gaining a broader and better training for future usefulness by learning the construction and manipulation of one machine than by becoming nominally proficient in the use of all of those in the workshop.

The educational tools available to the college in colonial times were few in number, and, judged by modern standards, very clumsy. Most of the text-books were imported from England and Holland, and were, in consequence, costly. Moreover, the community, the college, and its students were poor, and bought books sparingly. But what the college lacked in equipment was largely balanced by that earnest persistency that characterized the colonists in establishing educational institutions, generally with a view to training ministers of the gospel. The founding and enlarging of the " Collegiate school of Connecticut " was the deep concern of pious people who believed, with all the depth and sincerity of which a religious nature is capable, that the salvation of souls was involved.

The course of study during the greater part of the eighteenth century was predominantly theological. During the first quarter of that century the text-books used were as follows: Instruction in the ancient languages was limited to the reading of the Old and New Testament and of Virgil. A reasonable acquaintance with Latin and Greek was required for admission,

the student being examined in the Greek Testament and in Virgil. These continued to be read during most of the course, but apparently no other Greek or Latin texts were read except by a small group of advanced students. During the last two decades of the eighteenth century Cicero and Horace were added, but no Greek classic was introduced before the nineteenth century.

In the early part of the eighteenth century the study of Hebrew was a serious and important part of the curriculum, but, tho nominally retained till about the time of the Revolution, it had long before then lost its hold upon the students, and soon after almost completely disappeared, at least as a tool of academical instruction. In fact, the efficiency of instruction in the ancient languages during the eighteenth century is apt to be overrated. While Hebrew was gradually discarded, the Greek and Latin that remained were not correspondingly developed as educational tools. To be sure, the college rules required the students to carry on all conversation in Latin; but, whether they lived up to this rule or not, their Latin and Greek, which, as we are told, they spoke "with ease," was far from classical in character. Their control of the dead languages was very imperfect, and their instruction perfunctory, as may be judged from their Latin and Greek compositions and from the limited repertory of classical authors at their command.

In the study of theology and logic a larger number of textbooks was available. From the establishment of the college to the time of the Revolution, William Ames's *Medulla theologiæ,* and during a part of that time his *Conscience,* was used. The *Westminster catechism* and *Confession* were also recited in Latin by all classes. In the second quarter of the eighteenth century these gave way to the *Abridgment of Christian divinity* by John Wollebius, a Swiss minister, born in 1586. His work was supplemented during the second half of the century by William Wollaston's *Religion of nature.*

The instruction in theology was of course dogmatic and polemic, and incidentally aimed to vindicate the Protestant contentions and oppose the claims of the Established Church of England. We quote at random a sentence from the *Me-*

dulla: "Neque est Ecclesia hæc a Deo instituta proprie Nationalis, Provincialis, aut Diocæsana, quæ formæ fuerunt ab hominibus introductæ ad exemplum civilis regiminis, præsertim Romani, sed Parochialis, vel unius congregationis." The emphasis upon the "dissenting" point of view was increased after Rector Timothy Cutler's withdrawal from the headship of the college in 1722 owing to his open leanings toward the Anglican Church. His successors in office, as well as the tutors, had thereafter to assent to the *Westminster catechism* and *Confession,* which requirement was, however, modified in 1778 to assent to the *Saybrook platform,* and entirely removed in 1823.

The instruction in theology in the eighteenth century was supplemented by a study of logic and metaphysics. The early text-books used were Adrian Heereboord's *Logica* (1676), Franco Burgersdicius's *Institutionum logicarum libri duo* (1666), Richard Crakenthorp's *Logicæ libri V.* (1677), Petrus Ramus's *Dialecticæ libri duo* (1762), Barthol Keckerman's *Systema logicæ* (1603), René Descartes's *Compendium logicæ,* and Henry More's *Enchiridion ethicum* (1668). We need not stop to characterize in detail the instruction in these subjects. It aimed to inculcate proficiency in formal dialectic, as is indicated in the following questions and answers from Burgersdicius: *Quid est ubi? Ubi est modus, quo res finitæ alicubi esse dicuntur; Quid est relatum? Relatum est subjectum cum relatione.*

The instruction in rhetoric, oratory, disputation, and declamation offered the same training. Five times a week each student had to "dispute" in forensic or syllogistic form. At the public functions the opponents mounted opposite galleries, and thundered their Latin arguments, denunciations, and rebuttals at each other, to the admiration, if not the edification, of their friends and relatives on the floor of the church.

The instruction in mathematics and in the natural sciences was at first based on a variety of seventeenth-century text-books, so, for instance, on the mathematical works of John H. Alsted, and on Pierre Gassendi's *Institutio astronomica* (1653). Magirus's *Physiologicæ peripateticæ libri sex*

(1642), a metaphysical treatise on nature and on the human body and mind furnished the basis for instruction in those subjects, given by the first rector of the college, Abraham Pierson. His lectures on physics were delivered from a note-book, dating perhaps from his student days at Harvard College. This served as a text-book, and was copied by the students,—it is still preserved in the Yale University library,—until superseded in the twenties by the more serviceable and less metaphysical text-books of Jean Leclerc (*Physica,* 1704), and Jacques Rohault (*System of natural philosophy*). Rohault's book was displaced by W. J. S. van s'Gravesande's *Mathematical elements of natural philosophy* (1731), and more especially by Benjamin Martin's *Philosophical grammar* (1753).

Apparently few changes were made in the curriculum during the first three-quarters of the eighteenth century, except that the Latin works on ethics and logic were supplemented by President Thomas Clap's *Essay on moral virtue and obligation* (1763) and Jonathan Edwards's *Enquiry into the freedom of the will* (1754), which were presumably the first American text-books used in the college. The study of mathematics was somewhat extended, and toward the end of the period included the elements of surveying, navigation, and astronomy, and a few proficient students were even introduced to conic sections and fluxions (*i. e.,* the differential calculus).

The last quarter of the eighteenth century saw great changes in the college curriculum, the reflection of the awakening in the intellectual and political life of the country. The theological text-books of Ames, Wollebius, and Wollaston were displaced at about the time of the Revolution by Locke's *Essay concerning human understanding* and Vincent's *Shorter catechism.* The former was used for some years, and then gave way to William Paley's books (*Moral and political philosophy,* and *Natural theology*), on which the instruction in ethics to the Senior class continued to be based till after the civil war.

William Duncan's *Elements of logic* was introduced in the seventies, and continued in use for some time. Isaac Watts's *Logick* was presumably displaced by it.

Notable progress was made in mathematical instruction during the last quarter of the eighteenth century. Nathaniel Hammond's *Elements of algebra* and John Ward's text-books were the leading ones in pure mathematics; while James Atkinson's *Art of navigation,* John Wilson's *Trigonometry,* and Nicolas Pike's *Arithmetic* were chiefly used in teaching applied mathematics, to which study much attention was given. Commercial computations, problems in money and exchange, and calculations in navigation and surveying were the leading subjects of classroom exercises, and indicate a striking change from the earlier type of instruction given.

A similar important change was made toward the end of the eighteenth century in drawing upon history and kindred subjects for educational material. This was doubtless largely due to the personal influence of President Ezra Stiles, a man of inquisitive mind, wide knowledge, and broad sympathies. William Guthrie's *Geographical, historical, and commercial grammar* was used in the college during the seventies and eighties, and was then displaced by Jedediah Morse's *American geography* (1789), which remained in continuous use till 1825. This famous book contained a general, economic, and natural history of the country, and its use in the curriculum indicates the wide departure from the educational methods of the college in the eighteenth century. This is further emphasized by the adoption, about 1790, of Joseph Priestley's *Lectures on history,* Vattel's *Law of nations,* and Montesquieu's *Spirit of laws* as college text-books.

In the study of English the use of John Ward's *System of oratory* in 1767 indicates that the students were trained in the use of their mother tongue as a part of their training in argumentation. A few years later John Holmes's *Art of rhetoric* was used. It contained extracts from the Greek and Roman orators, but of course in an English translation. About the same time Robert Lowth's *English grammar* came into use. This was constructed on the plan of a Latin grammar. The introduction of Noah Webster's *Grammatical institute of the English language* in the eighties was a great step forward. It was apparently superseded in 1785 by Hugh Blair's *Lectures*

on rhetoric and belles lettres. This discussed style, structure of sentences, and eloquence, with frequent extracts from the English classics, for instance, from the *Spectator.* It must have proved a suitable educational tool, for it remained in use till the civil war, a longer time than any other text-book, barring Ames's *Medulla,* the New Testament, and particular editions of Greek and Latin authors.

In the study of the natural sciences Martin's *Philosophical grammar,* already mentioned, was supplemented in the seventies by Newton's *Philosophiæ naturalis principia mathematica,* and a decade later by Nehemiah Strong's *Astronomy.* In 1788 William Enfield's *Natural philosophy* was introduced, and continued in use till displaced by Denison Olmsted's *Natural philosophy* in 1830, which was itself displaced by Ganot's *Physics* in 1871, the last text-book, in its numerous editions, remaining in use till the present time.

This list of text-books in the natural sciences gives no indication of the growth of those subjects as elements in the college curriculum. The application of these modern studies to educational purposes Yale owes to the personal force of Professor Benjamin Silliman, whose selection as a young instructor and encouragement to go abroad and drink at the fountain of scientific knowledge is due to the foresight and wisdom of the first president, Timothy Dwight. The latter was among the first to see the importance of encouraging scholarship as such, and of finding young men to devote their lives to advancing and imparting knowledge.

During his more than fifty years' active connection with the teaching force of the college, beginning with 1799, Professor Silliman devoted himself to spreading a knowledge of the advances which were being made in the domain of science, and to arousing an appreciation of their meaning in the minds of the students. His method of teaching by lecture, demonstration, and text-book was stamped upon the curriculum, and has remained the traditional means of teaching the natural sciences until recent times, when it is being more and more displaced by individual research, which laboratory method the college has been slow to adopt.

During the last quarter of the eighteenth century the college curriculum turned into more modern channels, as was the case in other American colleges. Similarly, the second quarter of the nineteenth century brought a further and more important change, due to the influence of Theodore Dwight Woolsey, an officer of the college from 1823 to 1885, as professor of Greek from 1831 to 1851, and as president from 1846 to 1871. He was distinctly a man of original and creative scholarly powers, to a greater degree than in the case of his predecessors. Woolsey spent some years in study at German universities, and returned filled with those ideals of German exact scholarship that had pushed the German universities far ahead of our colleges. Göttingen was founded thirty-six years after Yale, but in one hundred years had left Yale far behind in equipment, library facilities, faculty personnel, and general tone of scholarship. With few exceptions the genesis of American schoarship in various lines is found in the visit of some such ambitious young man as Woolsey to the German universities.

On returning to his *alma mater* Woolsey at once brought his influence to bear on the course of study he found there. His chief interest lay in classical philology, for which he had developed a great enthusiasm abroad, where he had been awakened to the beauties especially of the Greek authors, and had mastered the German exact philological methods of research. While an undergraduate in the college, Livy, Cicero, Horace, and Tacitus were presumably the only Latin authors read; and of Greek authors only the short selections appearing in the collection entitled *Græca majora,* introduced in the early years of the century by James L. Kingsley, who held the professorship of Hebrew, Greek, and Latin languages, the first professorship in the ancient languages to be established.

Woolsey displaced this collection with foreign editions of the individual Greek authors, or with some edited by himself. The curriculum, especially its first two years, became crowded with Latin and Greek studies of a considerable degree of advancement, at least as compared with the lax instruction of earlier times. It was due to his influence and that of the famous body of instructors he trained that the curriculum be-

came predominantly classical, and has remained so. Livy and Horace are still the leading Latin authors read by Freshmen; in Greek, Homer and Herodotus were only very recently displaced by Plato and Demosthenes, which formerly found a place in the studies of the three upper years. The Sophomores still read Horace and Cicero, as they did in 1820; about 1875 Tacitus was added, which till then had been read by Juniors. Latin comedy and satire had been introduced somewhat earlier. In Greek, the Sophomores till recently read Xenophon's *Memorabilia,* and the tragedians, which Woolsey introduced in the early forties. The Juniors read Æschylus and Euripides in the thirties; and continued to study Latin and Greek as a part of their required course of study, especially Cicero's philosophical writings, Tacitus, Plato, Thucydides, and Demosthenes, till 1875. Seniors were not required to study Latin or Greek after about 1855.

Woolsey's influence is also seen in the perpetuation of metaphysical studies, to which he was attracted. The study of Paley and Locke was supplemented by that of more modern philosophers. These were exclusively English and Scotch. Kant and his German successors did not gain admittance to the curriculum till within the past thirty years. During the twenties Levi Hedge's *Logic* (1816) was studied by the Seniors; this was displaced in the forties by Richard Whateley's *Logic,* the study of which subject was pushed down into Junior year, where it has remained till now. J. S. Mill's *Logic* was used in the sixties, also Francis Bowen's; these gave way to Jevons's *Logic,* which has seen service during the past generation.

Thomas Brown's *Physiology of the human mind* (1820) and Dugald Stewart's *Philosophy of the human mind* were studied by successive Senior classes during the second quarter of the century. These were supplanted during the administration of President Woolsey (1846-71) by T. C. Upham's *Intellectual philosophy,* Victor Cousin's *Psychology* and his *History of philosophy,* Sir William Hamilton's *Metaphysics,* Thomas Reid's *Essays,* Hopkins's *Moral science,* Bishop Butler's *Analogy of religion,* and Schwegler's *History of Phi-*

losophy. The last two text-books continued in use during the following administration of President Noah Porter (1871-86), but the others gave way largely to Porter's *Human intellect* and his *Moral science.* Since the modern science of psychology has been developed Professor G. T. Ladd's various text-books have been used.

The large share given to the study of the ancient languages and of philosophy in the curriculum under the influence of President Woolsey and his successor necessarily reacted upon the development of other lines of study. In mathematics, Euclid's, and later Chauvenet's *Geometry* have been, until recently, the typical text-books for Freshmen. The Sophomores used Dutton's *Conic sections* during the twenties, also President Jeremiah Day's *Mathematics,* which, as well as his *Algebra,* was displaced by Professor Elias Loomis's well-known series of mathematical books. The absence of considerable changes in the mathematical part of the college curriculum during the past seventy-five years is, however, as much due to the character of the subject, and the progress that has been made in those branches of it which are of use in the instruction of undergraduates, as it is to the fostered competition of classical and philosophical studies; but it is a noteworthy fact that the average graduate of Yale College of the second quarter of the nineteenth century studied more mathematics, pure and applied, than does his successor of to-day.

Similarily in the case of the natural sciences. Their importance in the curriculum has declined since Professor Silliman's time, under the pressure from the two other lines of study emphasized by President Woolsey. Instruction continued to be based on text-book exercises, Olmstead's *Astronomy,* Loomis's *Astronomy,* Dana's *Geology,* Huxley's *Physiology,* and Barker's *Chemistry* being leading examples of the books used. The tardy development of the laboratory method of instruction doubtless contributed to diminishing the importance given to the sciences as educational tools. Moreover, the rise of the Sheffield Scientific School,—founded in 1847,—and its appropriation of those tools for its purposes also contributed to this end. Comparing again the average graduate of the col-

lege of to-day with his predecessor of, say, seventy-five years ago, it must be said that the latter gained a wider knowledge of the then existing sciences, their scope and method.

The study of history and the social sciences was minimized, like that of the natural sciences. As was pointed out above, a beginning in teaching history was made toward the end of the eighteenth century, with the adoption of Priestley's *History* as a text-book. This gave way about 1820 to A. F. Tytler's *General history,* a résumé of ancient and modern history to the seventeenth century, to which was added a chapter on the United States Constitution. The edition of 1838 contained further chapters on the history of the eighteenth century. Tytler was followed in the fifties by Pütz and Arnold's *Ancient history* and Liddell's *Rome,* and also by Guizot's *History of civilization.* The latter yielded to Hallam's *Constitutional history* in the seventies, which was followed in the early eighties by Fyffe's *History of modern Europe,* which was used till very recent times.

Morse's excellent *American geography,* already mentioned, yielded to Homer in the twenties as a subject for study in Sophomore year. About that time the Seniors began the study of political economy and kindred subjects, to which Woolsey devoted his time more as a writer than as a teacher. Say's *Political economy* and Kent's *Commentaries* were used as text-books in the thirties and forties. Francis Wayland's *Political economy* was introduced about 1838, and yielded to F. Lieber's *Civil liberty* about 1855, and that book again to J. S. Mill's *Political economy,* Fawcett's *Political economy* and to Woolsey's *International law* during the seventies.

The study of English literature formed no part of the college curriculum before the civil war. There is abundant proof, however, that the students were appreciative readers of English authors. Witness the files of the *Yale literary magazine,* founded in 1836. But their classroom instruction in their native tongue was limited to exercises in composition and rhetoric. The text-books used were Blair's *Rhetoric,* mentioned above, A. Jamieson's *Rhetoric* (used during the twenties and thirties), and Richard Whateley's *Rhetoric* (used from the

forties to the civil war). After the civil war the Juniors read Shakspere, Milton, and other English masterpieces, and were taught the history of English literature. These studies were successively pushed down into Sophomore year in 1884, and into Freshman year in 1891 and 1892; and beginning with 1894 an examination in certain pieces of English literature was required for admission to the college. This tardy recognition of English literature as a suitable educational tool was largely due to the curriculum's already being fully supplied with linguistic discipline. Moreover, it took the college a century to outgrow the tradition that English literature is a toy. In 1743 the college library catalogue classified Shakspere, Pope, and Spenser among "Books of diversion," and tho the recognition of such authors in the curriculum was at times demanded, they were practically ignored until after the civil war, and then were only sparingly admitted.

The other modern European languages fared even worse. The establishment of a professorship of French was proposed by Silas Deane after the Revolution, but came to nothing. Such professorships in the modern languages were established at that time in some American colleges, but at Yale French and German did not figure as educational tools in the required course of study till the sixties, when a French professorship was established, and the language was tentatively introduced as a Sophomore study. In 1876 elementary German became a required study of Junior year, and was pushed down into Freshman year in 1884. In that year a knowledge of elementary German or French was required for admission. The modern languages, while neglected in the required course of study in favor of the ancient languages, were given more recognition in the optional or elective courses, which go back to the first quarter of the nineteenth century. Even before then there is evidence that at times specially qualified students were given separate advanced instruction in some branches. Beginning with about 1820, the Juniors were allowed to choose during the last third of the year an extra course in either Greek, Hebrew, or fluxions. In 1825 the door was similarly opened to French; ten years later to Spanish; and in the early forties

to German. In 1845 this optional system was extended to the third term of Senior year, and the choice of extra work offered in higher mathematics, astronomy, logic, and in the ancient and modern languages. This meager system remained practically unchanged till 1876.

In that year the elective principle was further advanced by allowing students during their last two years to choose one quarter of their work from a wider list of courses. Those open to Juniors were in Greek and Latin, French, Anglo-Saxon, calculus, and zoölogy. The Seniors' choice was more extensive, and covered American history, political economy, calculus and astronomy, physics, mineralogy, geology, palæontology, ancient and modern languages, linguistics and Sanskrit. During the following years a few other subjects were added to the elective list, such as botany in 1877, the fine arts in 1880, international law and metaphysics in 1882.

The growth of the elective system was mightily influenced by the fact that by its extension the leading instructors of the college were enabled to push their investigations further, and adopt more advanced methods of teaching their subjects. From 1876 on the elective courses represented chiefly the work of specialists applied to students. The intellectual life of the institution and its share in advancing knowledge were centered about these men and their work: Newton, and astronomy; Loomis, and meteorology; Dana, and geology; Thacher and Marsh, and zoölogy; Whitney, and Sanskrit and linguistics. Subjects which had formed the traditional "frills" of the curriculum rose in dignity and importance as they were developed into educational tools. Subjects like physiology, which were being chiefly exploited by the professional schools, won recognition as proper elements in an academical curriculum. All these studies demanded fuller recognition, which was partially given them in the changes made in 1884.

In that year the study of a modern language was introduced in Freshman and Sophomore years, as we have seen. Otherwise, the course of study of the first two years remained unchanged; all of it was required. More than half of the instruction was devoted to ancient languages; more than one-quarter to mathe-

matics; and less than one-quarter to the modern languages, including English. In Junior year seven hours a week of classroom work, or about one-half of the instruction, was required, and covered the natural sciences,—physics, astronomy, and geology,—and philosophy,—logic and psychology. The other half of their time the Juniors could devote to a limited number of elective courses in those branches, as well as in the ancient and modern languages, mathematics, and history—ancient, mediæval, and American. In Senior year the required courses occupied three hours a week, and covered psychology, ethics, and evidences of Christianity; while the remaining four-fifths of their time the students could devote to advanced elective courses in the branches already mentioned, and in political economy, international law, English and European history.

During the sixteen years following 1884 the college curriculum remained practically unchanged as regards the principle upon which it was based, but in practice it underwent considerable change. The fundamental principle that certain studies are essential to a liberal education was retained. In practice this was modified by the transfer of the natural sciences and astronomy from the required to the elective studies of Junior year, at the desire of the instructors concerned, and by a change in Sophomore year, made about the same time, 1893, by which members of that class were required to take five of the six studies, Greek, Latin, mathematics, English, physics, and a modern language.

The increase in the number of students and instructors led to a rapid growth of the number of elective courses offered and of the range of subjects they covered. Within the narrow limits set the students in their choice of studies,—their elective studies comprised one-third of their work in 1884, the fraction rising to about one-half in sixteen years,—there necessarily occurred a rearrangement of the relative amount of instruction in each line of study.

As the modern languages and English, the social sciences and history, were developed in the curriculum, largely as elective studies, the fraction of its course each class devoted to these subjects rose from thirty per cent., in the case of the class

graduating in 1886, to fifty-two per cent., in the case of the class of 1901. This increase of, roughly, seventy-five per cent. is reflected in a corresponding falling off in the relative amount of time given by successive classes to the study of the ancient languages and mathematics. It is also reflected in the figure indicating the relative attention given to philosophical studies and to the natural sciences, which remained fairly constant.

The following table indicates the leading ingredients of their college education enjoyed by successive classes during the years 1886-1901:

RELATIVE AMOUNT OF CLASSROOM WORK DONE IN EIGHT LEADING DEPARTMENTS OF STUDY BY A NUMBER OF TYPICAL CLASSES

(In percentages of total work done)

CLASSES	1886	1888	1890	1892	1894	1896	1898	1901
Ancient languages....	34.8	30.6	28.9	27.4	28.6	22.6	23.2	22.7
Mathematics.....	18.8	16.9	15.7	14.8	14.6	13.8	9.4	9.8
English.....	9.2	12.3	8.4	8.5	7.5	10.7	11.	13.2
European languages..	10.	7.1	12.3	14.	13.5	14.2	14.3	14.3
History.....	7.2	8.6	7.2	9.9	9.5	12.1	11.4	10.8
Social sciences.....	3.5	6.	8.3	7.6	9.8	10.3	11.1	13.5
Philosophy.....	9.1	9.4	9.6	8.2	8.4	9.1	9.3	6.
Natural sciences.....	7.4	9.3	8.5	8.7	6.8	8.7	8.2	7.9

The growth of the social sciences, history, and the modern languages, including English, at the expense of the older branches of study was inevitable, and was the more rapid owing to the tardy recognition accorded them among the traditional required courses of the curriculum. The growth of the elective system did much to bring these newer studies to an equality with the older ones, and to win them their proper recognition.

Another effect of the system was, however, less beneficial. With the indefinite increase of elective courses, their relation to each other grew more and more vague and confused, at least in the eyes of the students; and it was evident that the bulk of their work was tending to become dissipated among a large number of elementary courses, and little or none of it—in the case of individual students—was of an advanced character.

Such and similar considerations led to the adoption of radical changes in the curriculum, which are to go into effect with the beginning of the next autumn term. The traditional requirement of specific studies, on the assumption that they are essential to a liberal education, has been reduced to a minimum, and only affects the studies of Freshman year which are treated as a continuation of the school discipline: Greek, Latin, mathematics, English, and either German or French. This college requirement will doubtless accommodate itself to the changes in the school curriculums, its aim being to require students upon entering the college to carry their preparatory studies to something of a conclusion, or at least to discourage their dropping studies of which they have acquired only an elementary and formal knowledge.

Much the same motive appears in the college curriculum of the later years. The student is given nominally unlimited freedom in the choice of his courses of study during Sophomore, Junior, and Senior years. He is not required to take any specific course; but whatever courses he chooses, they must lead him before graduation to a high degree of advancement in one line of study, and to a lesser degree of advancement in two other lines.

For this purpose the leading courses are classified under three groups:

I. Languages and literature, comprising ancient languages, classical archæology, linguistics, Biblical languages and literature, the modern languages and English.

II. Mathematics and the natural and physical sciences, comprising mathematics, astronomy, physics, chemistry, geology, physical geography, mineralogy, biology, anatomy, histology, botany, and forestry.

III. Philosophy, history and the social sciences, comprising psychology, ethics, logic, philosophy, education, ancient, mediæval, and modern history, economics, politics, and the science of society.

Each student must choose his major subject of study from one group, and a minor subject of study from each of the other two groups. The courses in each group and subject are

arranged under three successive grades, A, B, C; and a student is required to complete *connected* courses of grades A, B, C, aggregating at least seven hours a week, in one of the above groups, in order to meet the major requirement, and *connected* courses of grades A and B, aggregating at least five hours a week, in each of the other two groups in order to meet the minor requirement. Grade A comprises the elementary courses in each subject; grade B, the more advanced course, in which lectures are a leading feature; grade C, the most advanced courses in which individual research predominates.

The traditional requirement of a certain quantity of work along specified lines has yielded to the requirement of a certain quality of work along any three lines representing the three leading branches of study. A general rule calls upon the student to attend on an average fifteen hours a week of classroom exercises during his four years' course. The latter he is enabled to shorten to three years in some cases by anticipating certain courses, and thereby gaining credit for the corresponding amount of work toward the attainment of his A. B. degree.

These new requirements, instead of lowering the standards of the college curriculum, will necessarily raise them; and, it is hoped, will arouse more scholarly enthusiasm among the students as well as among the instructors. The interest which the former have shown in choosing their courses for the coming year, often looking ahead several years, and necessarily choosing their major and minor subjects early in their course, is a hopeful sign for the future. But, however perfect the curriculum, it is at best a machine, the educational value of which rests with the efficiency of the instructor. The history of the Yale College curriculum emphasizes this truth. The personal element has been the strongest factor in its development; and this we should find has been the case in the history of other American colleges.

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II

THE EXAMINATION FOR THE DEGREE OF PH. D.[1]

In the universities of the middle ages there were three recognized levels of attainment, characterized by the bachelor's, the master's, and the doctor's degrees. These degrees may be said to correspond in the field of learning to the three guild distinctions of apprentice, journeyman, and master-workman. The titles *magister* and *doctor* were often interchanged, and yet the distinction between them was felt and recognized. The former title indicated that its possessor was fit to do good work, the latter that he was fit to direct the work of others. In England the doctor's degree was gradually abandoned except for what is technically called professional status, or when given *honoris causa,* and the master's degree was left as the highest degree in course given for liberal learning. In Germany, on the other hand, the master's degree was absorbed by that of doctor, and is commonly now given with it.

In this country the academic degree, doctor of philosophy, was until quite recently given only *honoris causa.* I think it was recognized as not conveying so marked a compliment as the other honorary doctor's degrees. In the last quarter century, since our young men have been going in numbers to Germany to finish their preparation for the teaching profession, the degree has come to have another meaning. It now means to the public, to university boards of trustees, and to the body of students substantially what it means in Germany. It is the last degree in course given in the domain of liberal learning, and indicates its possessor's fitness for independent work and for the guidance of the work of others.

[1] A paper read to open the discussion on this subject before the second annual meeting of the Association of American Universities at Chicago, Ill., February 27, 1901.

Now I think it will be agreed that in Germany the tests which determine a candidate's promotion to the doctor's degree are clearly understood, and are practically the same at all universities—the same, I mean, in all essentials, ignoring the special differences due to slight variations in the statutory requirements, or to greater or less strictness of administration. These tests are: (1) adequate school preparation; (2) universversity residence with sufficient attendance on proper courses; (3) a dissertation showing power to do original work; (4) an examination.

It is with respect to the last requirement, the examination, that the greatest diversity is possible; and yet it is with respect to this that there is almost complete agreement in the practice all over Germany. The statutory requirements, as interpreted by the practice, everywhere exact substantially the same thing. The candidate presents himself for examination in three or four subjects. One of these is his main subject, the others are his side, or subsidiary, subjects, and of these one is usually by prescription or precedent a subject from philosophy. On these subjects, which are of very wide scope, such as Latin, Greek, physics, chemistry, palæontology and the like, the student is examined orally by professors appointed by the dean of the faculty, usually in response to the candidate's suggestion. The examination lasts a longer or shorter time, according to the practice of the university and the idiosyncrasies of the examiners, but in no case does it occupy more than one day, and in most cases only a very few hours. The candidate has never before been examined on the subjects which he offers or on the courses which he has heard while preparing for the examination. The decision of the examiners is rendered to the faculty, and the degree is given with some indication of the quality of the candidate's attainments. The features of this method of examination to which I would direct special attention are:

1. The examination is on general subjects, and not on prescribed parts of subjects or on specially assigned books or on courses of lectures.

2. The examination is oral, the questions never being set in

writing and the answers never being required in writing, except perhaps in certain mathematical examinations.

3. The examination is to test the candidate's fitness for the degree, and not to assign him a rank among his fellow candidates, except in the most general possible way, and with reference to an absolute rather than to a relative standard of excellence.

Now, so far as I have been able to ascertain the conditions for the doctor's degree which prevail in our American universities, I have found that while we are practically agreed in our requirements respecting preliminary training, university residence, and the original work embodied in a thesis, yet we are by no means in agreement with respect to the type of examination. A rough classification of the prevalent methods of examination may be made which arranges them in three groups:

1. In the first, the examination is conducted as nearly as possible after the German method already described.

2. In the second, the examination extends over several days, is generally, at least in part, conducted in writing, and the subject matter of the examination is sometimes a specially prescribed book or books or a course or courses of lectures.

3. In the third, an examination is held on each course pursued by the student as soon as it is completed; and if there is any general examination held it is *pro forma* and perfunctory. Of course, to insure a sufficient attainment on the part of the student, a fixed number of courses on which he must pass is prescribed.

It hardly needs argument to show that a uniform type of examination in those universities which set the precedents in these matters would be advantageous. Such uniformity of type would sustain a recognized standard for the doctor's degree, and aid in sending out doctors who conform in their attainments to that standard.

In the discussion of this subject the two main questions to be settled are:

1. What should the degree doctor of philosophy represent?

2. What type of examination is best adapted to secure that the degree as given is consistent with its recognized meaning?

In proceeding I must admit that my treatment of these questions is influenced by my own beliefs, and that I shall take the position, I hope not unfairly, of an advocate rather than that of an expositor.

In regard to the first question I remark therefore:

1. The degree, doctor of philosophy, should retain its traditional meaning, introduced by us from Germany.

2. This traditional meaning may be expressed by saying that the holder of the degree has proved his fitness to do original work and to guide the studies and to supervise and criticise the original work of others; or otherwise, he has shown the possession of such knowledge of principles and method and such powers of mind as will probably enable him to rank in time among the useful teachers and successful original investigators of the subjects which he professes.

3. The degree does not indicate on the part of its holder the possession of knowledge which may not fairly be expected of any professor of his subjects.

4. The degree does not indicate on the part of its holder the possession of knowledge which may not fairly be expected of a man twenty-five years old.

5. The degree does not indicate on the part of its holder the possession of encyclopedic knowledge, or of surpassing mastery even of one branch of learning. One of the ablest German mathematicians, and a man of recognized eminence as a teacher, once told a friend of mine that he believed that not a single professor of mathematics in Germany could pass the examinations of the Cambridge tripos; and from seeing another great German mathematician's struggles with trigonometry I believe he would not have done creditably, in the allotted time, on an examination set for the Sophomore class of one of our colleges; and yet both of these men, even in their youth, represented the highest type of attainment and power, recognized by the doctor's degree, while the ordinary wrangler, not to mention the Sophomore, does not.

6. The degree does indicate on the part of its possessor a certain element of general culture as well as special attainment. This is shown not only by the requirement of adequate prepara-

tion before the candidacy for the degree is entered upon, but also by the requirement of the side—or subsidiary—subjects, which have a broadening tendency even when they are cognate to the main subject; and by the ordinary agreement, in Germany, at any rate, that one of these subjects shall be a department of philosophy, which from its usual want of co-ordination with the other subjects offered, can only be looked on as expected for its value as an index of general culture.

To come to the second question—what the type of examination should be—I would answer that the type which meets all requirements is that which is prevalent in Germany.

Waiving the argument which may be drawn from the success of that type in Germany in producing properly qualified doctors of philosophy, I would say:

1. The examination is, as it should be, on subjects. What should be expected of such a doctor as I have described is not knowledge of a particular book or set of books or lectures, but a general knowledge of some great subjects of study. This he has tried to acquire by hearing lectures and reading, but if he is wise and understands what an examination on a subject means he has not tried to acquire it by cramming.

That is, he has studied as a man should study, and not as a boy studies. He has been encouraged to wide reading, to the examination of original sources, and to reflection. Knowing that he will not be required to reproduce parts of any particular course, he has been free to consider principles rather than a particular mode in which they are presented, and to form a method for himself by the comparison of the methods used by others rather than by the acquisition and practice of the method of his teacher.

And further, the knowledge expected of him in these examinations on subjects is exactly what will be expected of him in his subsequent career. Provided that he understands what other experts in his subjects are talking about, knows how to use his sources of information, is able to give a well-developed course of instruction or to conduct an investigation, and can discuss intelligently the questions which arise in connection with it or in conversation, no one will ever demand of him that

he reproduce X's argument for his theory of the dative case, or Y's demonstration of Huygens's principle. Such knowledge as he will ultimately possess of particular points of this sort should be the natural result of his subsequent studies, and not the forced preparation for an examination.

(*a*) It hardly needs to be said that to examine on subjects does not mean that the examiners shall not examine on their own lectures; which would be to consider them exempt from human vanity; but that they may and generally should examine also outside of their own lectures.

(*b*) Such an ideal of the examination will not lead to the tests being unduly easy or superficial. It has been my experience that the test of the candidate's fitness comes in his willingness to present a subject, and in his liability for any part of it, rather than in the success of his answers to particular questions. These questions, by the way, should to some extent go minutely into some part of the subject, to test whether the candidate's study has been superficial or complete.

2. The oral character of the examination, which implies also that the examiner does not provide himself with a written set of questions, places the examination, as far as may be, on the plane of a "learned conversation." The examiner cannot or should not ask questions to which the answers are not freely and habitually present in his own mind, as parts of his ordinary mental equipment; that is, he should not expect of the candidate a particular knowledge of facts or of methods that he would not be willing to have expected of himself.

(*a*) This feature of the examination therefore excludes questioning on minute and impossible particulars; it makes the examination a test, not of omniscience, but of learning and intelligence.

(*b*) It also affords the examiner, by means of the direct personal intercourse with the candidate, a basis for a sound judgment on the candidate's general fitness for the degree that no written paper can give.

3. Special marks of distinction may be given, if such are desired, on the basis of this oral examination on subjects, because of the freedom with which the examiner can proceed

from one part of the subject to another, and as he finds the candidate proficient in one part of it can go to another or enter into details that were not in his original intention.

In fact, the oral examination gives the candidate much the best chance to show the extent and accuracy of his learning. It also enables the examiner to base the given distinction not on the candidate's doing peculiarly well what every candidate has to do—as is the case if the examinations are in writing—but on his doing more than the normal candidate is expected to do: and this, I submit, is the proper basis for distinction in this last academic grade.

4. Of the other types of examination, that which is conducted in writing is apt to be:

(*a*) Based on books or courses of lectures; that is, the tendency is to use books or helps in setting the questions, because the easy questions look too easy on paper, and enough of them cannot be given to make the aggregate represent what the oral examination does, so that the examiner sets more difficult questions, which he has to study out himself before he sets them; and if he does so he can hardly in fairness choose them outside of a limited range of reading which he has already prescribed to the candidate. This defect may be avoided by a very judicious examiner.

(*b*) The written examination is apt to be too difficult. The written questions are fewer than those given orally, and are sure to be more difficult than oral ones would be, and likely to lean toward being an inquiry into the minute knowledge of the candidate or into his dialectical skill. No better type of the written examination in the flower of its strength can be found than those of the Cambridge mathematical tripos; and it is admitted, even by Englishmen, that while they promote wonderful mathematical erudition and skill, they are not turning out men of original mathematical power. An examination of that type does not prove a candidate to be the kind of a man a doctor should be; and if he is such a man, it lays a burden on him that he should not be expected to bear.

5. The examinations on courses are inadequate. The candidate is treated like an elongated schoolboy. He is not required

to prepare himself for his degree by wide reading or by an independent examination of the sources of information; and the cramming habit which he has inherited from his undergraduate days is encouraged and developed.

6. Examination on subjects will facilitate the free movement of our students from one university to another. This is not the time to argue the advantages of such freedom, but it is plain that if a candidate knows that he is not bound to offer a certain set of courses, or to be prepared on any particular professor's book, but on a subject, he may go for a season with confidence to any university where he can profitably study that subject.

7. The examination on subjects will ultimately make it possible for a candidate to take his degree at one university, while his preparation has been made at another.

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III

THE SITUATION AS REGARDS THE COURSE OF STUDY[1]

Horace Mann and the disciples of Pestalozzi did their peculiar missionary work so completely as intellectually to crowd the conservative to the wall. For half a century after their time the ethical emotion, the bulk of exhortation, the current formulæ and catchwords, the distinctive principles of theory have been found on the side of progress, of what is known as reform. The supremacy of self-activity, the symmetrical development of all the powers, the priority of character to information, the necessity of putting the real before the symbol, the concrete before the abstract, the necessity of following the order of nature and not the order of human convention—all these ideas, at the outset so revolutionary, have filtered into the educational consciousness and become the commonplace of educational writing and of the gathering where teachers meet for inspiration and admonition.

It is, however, sufficiently obvious that, while the field of theory and enthusiasm and preaching was taken possession of by the reformer, the conservative, so far as the course of study is concerned, was holding his own pretty obstinately in the region of practice. He could afford to neglect all these sayings; nay, he could afford to take a part in a glib reiteration of the shibboleths, because, as a matter of fact, his own work remained so largely untouched. He retained actual control of school conditions; it was he who brought about the final and actual contact between the theories and the child. And by the time the ideals and theories had been translated over into their working equivalents in the curriculum, the difference between them and what he as a conservative really

[1] An address delivered before the Department of Superintendence of the National Educational Association at Chicago, Ill., February 28, 1901.

wished and practiced became often the simple difference between tweedledum and tweedledee. So the " great big battle " was fought with mutual satisfaction, each side having an almost complete victory in its own field. Where the reformer made his headway was not in the region of studies, but rather in that of methods and atmosphere of school-work.

In the last twenty or twenty-five years, however, more serious attempts have been made to carry the theory into effective execution in the schoolroom, in subject-matter as well as method. The unconscious insincerity in continually turning the theory over and over in terms of itself, the unconscious self-deceit in using it simply to cast an idealized and emotional halo over a mechanical school routine with which it was fundamentally at odds, became somewhat painfully apparent; consequently the effort to change the concrete school materials and school subject-matter so as to give the professed ends and aims a *pou sto* within the school walls and in relation to the children, has been made.

Drawing, music, nature study with the field excursion and the school garden, manual training, the continuation of the constructive exercises of the kindergarten, the story and the tale, the biography, the dramatic episode, and anniversary of heroic history found their way into the schoolrooms. We, they proclaim, are the working counterparts of the commands to follow nature; to secure the complete development of the child; to present the real before the symbolic. Interest was transferred from the region of educational principles and ideals, as such, to the child as affected by these principles and ideals. The formulæ of education were reduced in importance, and the present experience of the child was magnified. The gospel of the emancipation of the child succeeded the gospel of the emancipation of the educational theorist. This gospel was published abroad, and verily its day seemed at hand. It was apparently only a question of pushing a few more old fogies out of the way, and waiting for others to pass out of existence in the natural course of events, and the long-wished-for educational reformation would be accomplished.

Needless to say, the affair was not quite so simple. The conservative was still there. He was there not only as a teacher in the schoolroom, but he was there in the board of education; he was there because he was still in the heart and mind of the parent; because he still possessed and controlled the intellectual and moral standards and expectations of the community. We began to learn that an educational reform is but one phase of a general social modification.

Moreover, certain evils began to show themselves. Studies were multiplied almost indefinitely, often overtaxing the physical and mental strength of both teacher and child, leading to a congestion of the curriculum, to a distraction and dissipation of aim and effort on the part of instructor and pupil. Too often an excess of emotional excitement and strain abruptly replaced the former apathy and dull routine of the school. There were complaints in every community of loss of efficiency in the older studies, and of a letting down of the seriousness of mental training. It is not necessary to consider how well founded these objections have been. The fact that they are so commonly made, the fact that these newer studies are often regarded simply as fads and frills, is sufficient evidence of the main point, viz.: of the external and mechanical position occupied by these studies in the curriculum. Numbers of cities thruout the country point the moral. When the winds blew and the rains fell—in the shape of a financial stringency in the community and the business conduct of the school—the new educational edifice too often fell. It may not have been built entirely upon the sand, but at all events it was not founded upon a rock. The taxpayer spoke, and somehow the studies which represented the symmetrical development of the child and the necessity of giving him the concrete before the abstract went into eclipse.

It is, of course, agreeable for those who believe in progress, in reform, in new ideals, to attribute these reactions to a hard and stiff-necked generation who willfully refuse to recognize the highest goods when they see them. It is agreeable to regard such as barbarians who are interested simply in turn-

ing back the wheels of progress. The simple fact, however, is that education is the one thing in which the American people believe without reserve, and to which they are without reserve committed. Indeed, I sometimes think that the necessity of education is the only settled article in the shifting and confused social and moral creed of America. If, then, the American public fails, in critical cases, to stand by the educational newcomers, it is because these latter have not yet become organic parts of the educational whole—otherwise they could not be cut out. They are not really in the unity of educational movement—otherwise they could not be arrested. They are still insertions and additions.

Consider the wave by which a new study is introduced into the curriculum. Someone feels that the school system of his (or quite frequently nowadays her) town is falling behind the times. There are rumors of great progress in education making elsewhere. Something new and important has been introduced; education is being revolutionized by it; the school superintendent, or members of the board of education, become somewhat uneasy; the matter is taken up by individuals and clubs; pressure is brought to bear on the managers of the school system; letters are written to the newspapers; the editor himself is appealed to to use his great power to advance the cause of progress; editorials appear; finally the school board ordains that on and after a certain date the particular new branch—be it nature study, industrial drawing, cooking, manual training, or whatever—shall be taught in the public schools. The victory is won, and everybody—unless it be some already overburdened and distracted teacher—congratulates everybody else that such advanced steps are taken.

The next year, or possibly the next month, there comes an outcry that children do not write or spell or figure as well as they used to; that they cannot do the necessary work in the upper grades, or in the high school, because of lack of ready command of the necessary tools of study. We are told that they also are not prepared for business, because their spelling is so poor, their work in addition and multiplication

so slow and inaccurate, their handwriting so fearfully and wonderfully made. Some zealous soul on the school board takes up this matter; the newspapers are again heard from; investigations are set on foot; and the edict goes forth that there must be more drill in the fundamentals of writing, spelling, and number.

Moreover, in the last year or two there are many signs that the older and traditional studies do not propose to be ignored. For a long time, as already intimated, the conservative was, upon the whole, quite content to surrender the intellectual and emotional territory, the sphere of theory and of warmly-toned ideals, to the reformer. He was content because he, after all, remained in possession of the field of action. But now there are symptoms of another attitude; the conservative is, so to speak, coming to intellectual and moral consciousness himself. He is asserting that in his conservatism he stands for more than the mere customs and traditions of an outworn past. He asserts that he stands for honesty of work, for stability, for thoroness, for singleness of aim and concentration of agencies, for a reasonable simplicity. He is actively probing the innovator. He is asking questions regarding the guarantees of personal and intellectual discipline, of power of control, of ability to work. He is asking whether there is not danger of both teacher and child being lost in the portentous multiplication of studies. He is asking about the leisure requisite to intellectual and mental digestion and subsequent growth. He is asking whether there is not danger to integrity of character in arousing so many interests and impulses that no one of them is carried thru to an effective result. These are not matters of mere school procedure or formal arrangement of studies, but matters fundamental to intellectual and moral achievement. Moreover, some recent magazine articles seem to indicate that some few, at least, of the reformers are themselves beginning to draw back; they are apparently wondering if this new-created child of theirs be not a Frankenstein, which is to turn and rend its creator. They seem to be saying: "Possibly we are in danger of going too fast and too far;

what and where are the limits of this thing we have entered upon?"

My sketch, however inadequate, is yet, I hope, true to the logic, if not to the details, of history. What emerges from this running account? What does it all mean? Does it not signify that we have a situation in process of forming rather than a definitive situation? The history reflects both our lack of intellectual organization and the developing recognition of the factors which must enter into any such organization. From this point of view, the renewed self-assertion, from the standpoint of theory, of the adherents of the traditional curriculum is a matter of congratulation. It shows that we are emerging from the period of practical struggle to that of intellectual interpretation and adjustment. As yet, however, we have no conscious educational standard by which to test and place each aspiring claimant. We have hundreds of reasons for and against this or that study, but no reason. Having no sense of the unity of experience, and of the definitive relation of each branch of study to that unity, we have no criterion by which to judge and decide. We yield to popular pressure and clamor; first on the side of the instinct for progress, and then on the side of the habit of inertia. As a result, every movement, whether for nature study or spelling, for picture study or arithmetic, for manual training or more legible handwriting, is treated as an isolated and independent thing. It is this separation, this lack of vital unity, which leads to the confusion and contention which are so marked features of the educational situation. Lacking a philosophy of unity, we have no basis upon which to make connections, and our whole treatment becomes piecemeal, empirical, and at the mercy of external circumstances.

The problem of the course of study is thus, in effect, a part of the larger problem so pressing in all departments of the organization of life. Everywhere we have outgrown old methods and standards; everywhere we are crowded by new resources, new instrumentalities; we are bewildered by the multitude of new opportunities that present themselves. Our difficulties of to-day come, not from paucity or poverty, but

from the multiplication of means clear beyond our present powers of use and administration. We have got away from the inherited and customary; we have not come into complete possession and command of the present. Unification, organization, harmony, is the demand of every aspect of life —politics, business, science. That education shares in the confusion of transition, and in the demand for reorganization, is a source of encouragement and not of despair. It proves how integrally the school is bound up with the entire movement of modern life.

The situation thus ceases to be a conflict between what is called the old education and the new. There is no longer any old education, save here and there in some belated geographic area. There is no new education in definitive and supreme existence. What we have is certain vital tendencies. These tendencies ought to work together; each stands for a phase of reality and contributes a factor of efficiency. But because of lack of organization, because of the lack of unified insight upon which organization depends, these tendencies are diverse and tangential. Too often we have their mechanical combination and irrational compromise. More prophetic, because more vital, is the confusion which arises from their conflict. We have been putting new wine into old bottles, and that which was prophesied has come to pass.

To recognize that the situation is not the wholesale antagonism of so-called old education by the so-called new, but a question of the co-operative adjustment of necessary factors in a common situation, is to surrender our partisanship. It is to cease our recriminations and our self-conceits, and search for a more comprehensive end than is represented by either factor apart from the other. It is impossible to anticipate the exact and final outcome of this search. Only time, and the light that comes with time, can reveal the answer. The first step, however, is to study the existing situation impartially, as students, not as partisans, and, having located the vital factors in it, consider what it is that makes them at the present juncture antagonistic competitors instead of co-operative forces.

The question is just this: Why do the newer studies—drawing, music, nature study, manual training—and the older studies—the three R's—practically conflict with, instead of re-enforcing, one another? Why is it that the practical problem is so often simply one of outward annexation or mechanical compromise? Why is it that the adjustment of the conflict is left to the mere push and pull of contending factors, to the pressure of local circumstances and of temporary reactions?

An answer to this question is, I believe, the indispensable preliminary to any future understanding. Put roughly, we have two groups of studies; one represents the symbols of the intellectual life, which are the tools of civilization itself; the other group stands for the direct and present expression of power on the part of one undergoing education, and for the present and direct enrichment of his life-experience. For reasons historically adequate, the former group represents the traditional education; the latter, the efforts of the innovator. Intrinsically speaking, in the abstract, there is no reason to assume any fundamental, or even any minor, antagonism between these two groups. Such an assumption would mean that the requirements of civilization are fundamentally at war with the conditions of individual development; that the agencies by which society maintains itself are at radical odds with the forms by which individual experience is deepened and expanded. Unless we are ready to concede such a fundamental contradiction in the make-up of life, we must hold that the present contention is the result of conditions which are local and transitory.

I offer the following proposition as giving the key to the conflict.

The studies of the symbolic and formal sort represented the aims and material of education for a sufficiently long time to call into existence a machinery of administration and of instruction thoroly adapted to themselves. This machinery constituted the actual working scheme of administration and instruction. The conditions thus constituted persist long after the studies to which they are well adapted have lost their

theoretical supremacy. The conflict, the confusion, the compromise, is not intrinsically between the older group of studies and the newer, but between the external conditions in which the former were realized and the aims and standards represented by the newer.

It is easy to fall into the habit of regarding the mechanics of school organization and administration as something comparatively external and indifferent to educational purposes and ideals. We think of the grouping of children in classes, the arrangement of grades, the machinery by which the course of study is made out and laid down, the method by which it is carried into effect, the system of selecting teachers and of assigning them to their work, of paying and promoting them, as, in a way, matters of mere practical convenience and expediency. We forget that it is precisely such things as these that really control the whole system, even on its distinctively educational side. No matter what is the accepted precept and theory, no matter what the legislation of the school board or the mandate of the school superintendent, the reality of education is found in the personal and face-to-face contact of teacher and child. The conditions that underlie and regulate this contact dominate the educational situation.

In this contact, and in it alone, can the reality of current education be got at. To get away from it is to be ignorant and to deceive ourselves. It is in this contact that the real course of study, whatever be laid down on paper, is actually found. Now, the conditions that determine this personal relationship are, upon the whole, the survival of the period when the domination of the three R's was practically unquestioned. Their effectiveness lies in their adaptation to realizing the ends and aims of that form of education. They do not lend themselves to realizing the purposes of the newer studies. Consequently we never get the full benefit either of the old or of the new studies. They work at cross-purposes. The excellence which the conditions would possess if they were directed solely at securing progress in reading, writing, and arithmetic, and allied topics, is lost because of

the introduction of material irrelevant and distracting from the standpoint of the conditions. The new studies do not have an opportunity to show what they can do because hampered by machinery constructed for turning out another kind of goods; they are not provided with their own distinctive set of instrumentalities. Granted this contradiction, the only wonder is that the chaos is not greater than it actually is; the only wonder is that we are securing such positive results as actually come about.

Let us study this contradiction somewhat more intimately, taking up one by one some of its constituent elements. On the side of the machinery of school work I mention first the number of children in a room. This runs in the graded schools of our country anywhere from thirty-five to sixty. This can hardly be said to be an ideal condition, even from the standpoint of uniform progress in reading, writing, and arithmetic and the symbols of geography and history; but it certainly is indefinitely better adapted to securing these results than that of the symmetrical and complete development of all the powers—physical, mental, moral, æsthetic—of each individual child out of the entire fifty. From the standpoint of the latter aim, the discrepancy is so great that the situation is either ridiculous or tragic. Under such circumstances, how do we have the face to continue to speak at all of the complete development of the individual as the supreme end of educational effort? Excepting here and there with the genius who seems to rise above all conditions, the school environment and machinery almost compel the more mechanical features of school work to lord it over the more vital aims.

We get the same result when we consider, not the number of children in a given grade, but the arrangement of grades. The distribution into separate years, each with its own distinctive and definite amount of ground to be covered, the assignment of one, and only one, teacher to a grade, the confinement of the same teacher to the same grade year by year, save as she is "promoted" to a higher grade, introduce an isolation which is fatal, I will not say to good work, but to the

effective domination of the ideal of continuous development of character and personal powers. The unity and wholeness of the child's development can be realized only in a corresponding unity and continuity of school conditions. Anything that breaks the latter up into fractions, into isolated parts, must have the same influence upon the educative growth of the child.[2]

It may, however, be admitted that these conditions, while highly important as regards the aims of education, have little or nothing to do with the course of study—with the subject-matter of instruction. But a little reflection will show that the material of study is profoundly affected. The conditions which compel the children to be dealt with *en masse*, which compel them to be led in flocks, if not in hordes, make it necessary to give the stress of attention to those studies in which some sort of definite result can be most successfully attained without much appeal to individual initiative, judgment, or inquiry. Almost of necessity, attention to the newer studies whose value is dependent upon personal appropriation, assimilation, and expression is incidental and superficial. The results with the latter are naturally often so unsatisfactory that they are held responsible for the evil consequences; we fail to trace the matter back to the conditions which control the result reached. Upon the whole, it is testimony to the vitality of these studies that in such a situation the results are not worse than they actually are.

Unless the teacher has opportunity and occasion to study the educative process as a whole, not as divided into eight or twelve or sixteen parts, it is impossible to see how he can deal effectively with the problem of the complete development of the child. The restriction of outlook to one limited year of the child's growth will inevitably tend in one of two directions: either the teacher's work becomes mechanical, because practically limited to covering the work assigned for the year, irrespective of its nutritive value in the child's growth; or else less local and transitive phases of the child's

[2] I am indebted to Mrs. Ella F. Young's thesis, *Isolation in the school* (Chicago: 1900), for many suggestions.

development are seized upon—phases which too often go by the name of the interests of the child—and these are exaggerated out of all due bounds. Since the newer studies give most help in making this excessive and sensational appeal, these studies are held responsible for the evils that subsequently show themselves. As a matter of fact, the cause of the difficulty lies in the isolation and restriction of the work of the teacher, which practically forbid his considering the significance of art, music, and nature study in the light of continuity and completeness of growth.

This unity and completeness must, however, be cared for somehow. Since not looked out for on the basis of the teacher's knowledge of the whole process of which her own work is one organic member, it is taken care of thru external supervision and the mechanics of examination and promotion. Connection must somehow be made between the various fractional parts—the successive grades. The supervisor, the principal, is the recourse. Acting, however, not thru the medium of the consciousness of the classroom teacher, but thru the medium of external prescription and advice, the inevitable tendency is to arrest attention upon those parts of the subject-matter which lend themselves to external assignment and conjunction. Even music, drawing, and manual training are profoundly influenced by this fact. Their own vital aims and spirit are compromised, or even surrendered, to the necessities for laying out a course of study in such a manner that one year's work may fit externally into that of the next. Thus they part with much of their own distinctive and characteristic value, and become, to a considerable extent, simple additions to the number of routine studies carried by children and teacher. They serve no new purpose of their own, but add to the burden of the old. It is no wonder that, when the burden gets too great, there is demand that they be lopped off as excrescences upon the educational system.

The matter of promotion from grade to grade has a precisely similar effect upon the course of study. It is, from the standpoint of the child, just what the isolation and ex-

ternal combination already alluded to are from the side of the teacher. The things of the spirit do not lend themselves easily to that kind of external inspection which goes by the name of examination. They do not lend themselves easily to exact quantitative measurement. Technical proficiency, acquisition of skill and information, present much less difficulty. So again emphasis is thrown upon those traditional subjects of the school curriculum which permit most readily of a mechanical treatment—upon the three R's and upon the facts of external classification in history and science, matters of formal technique in music, drawing, and manual training. Continuity, order, must be somehow maintained—if not the order and method of the spirit, then at least of external conditions. Nothing is gained by throwing everything into chaos. In this sense the conservative is thoroly right when he insists upon the maintenance of the established traditions of the school as regards the tests of the pupil's ability and preparation for promotion. He fails, however, to recognize the other alternative: that the looseness and confusion, the vagueness in accomplishment and in test of accomplishment of which he complains, may be due, not to the new studies themselves, but to the unfit conditions under which they operate.

I have already alluded to the fact that at present the teacher is hardly enabled to get a glimpse of the educative process as a whole, and accordingly is reduced to adding together the various external bits into which that unity is broken. We get exactly the same result when we consider the way in which the course of study is determined. The fact that this is fixed by board of education, superintendent, or supervisor, by a power outside the teacher in the classroom, who alone can make that course of study a living reality, is a fact too obvious to be concealed. It is, however, comparatively easy to conceal from ourselves the tremendous import of this fact. As long as the teacher, who is after all the only real educator in the school system, has no definite and authoritative position in shaping the course of study, it is likely to remain an external thing to be externally applied to the child.

A school board or a superintendent can lay out a course of study down to the point of stating exactly the number of pages of text-books to be covered in each year, each term and month of the year. He may prescribe the exact integers and fraction of integers with which the child shall make scholastic acquaintance during any period of his instruction; he may directly or indirectly define the exact shapes to be reproduced in drawing, or mention the exact recipes to be followed in cooking. Doubtless the experience of the individual teacher who makes the connections between these things and the life of the child will receive incidental attention in laying out these courses. But, so long as the teacher has no definite voice the attention will be only incidental; and, as a further consequence, the average teacher will give only incidental study to the problems involved. If his work is the task of carrying out the instructions imposed upon him, then his time and thought must be absorbed in the matter of execution. There is no motive for interest of a thoroly vital and alert sort in questions of the intrinsic value of the subject-matter and its adaptation to the needs of child growth. He may be called upon by official requirements, or the pressure of circumstance, to be a student of educational books and journals, but conditions relieve him of the necessity of being a student of the most fundamental educational problems in their most urgent reality.

The teacher needs to study the mechanics of successfully carrying into effect the prescribed matter of instruction; he does not have to study that matter itself, or in its educative bearing. Needless to say, the effect of this upon the actual course of study is to emphasize the thought and time given to those subjects and phases of subjects where there is most promise of success in doing the exact things prescribed. The three R's are again magnified, and the technical and routine aspects of the newer studies tend to crowd out those elements that give them their deeper significance in intellectual and moral life. Since, however, the school must have relief from monotony, must have "interest," must have diversification and recreation, these studies become too easily tools for

the introduction of the supposedly necessary excitement and amusement of the child. The judicious observer who sees below the surface, but not to the foundation, again discounts these studies. Meanwhile the actual efficiency of the three R's is hampered and lessened by the superaddition of the new ways of employing time, whether they be routine or exciting in character.

It may easily be said that the classroom teacher at present is not sufficiently educated to be intrusted with any part in shaping a course of study. I waive the fundamental question —the question of democracy—whether the needed education can be secured without giving more responsibility even to the comparatively uneducated. The objection suggests another fundamental condition in our present school procedure —the question of the status of the teacher as regards selection and appointment.

The real course of study must come to the child from the teacher. What gets to the child is dependent upon what is in the mind and consciousness of the teacher, and upon the way it is in his mind. It is thru the teacher that the value even of what is contained in the text-book is brought home to the child; just in the degree in which the teacher's understanding of the material of the lessons is vital, adequate, and comprehensive will that material come to the child in the same form; in the degree in which the teacher's understanding is mechanical, superficial, and restricted the child's appreciation will be correspondingly limited and perverted. If this be true, it is obviously futile to plan large expansions of the studies of the curriculum beyond the education of the teacher. I am far from denying the capacity on the part of truth above and beyond the comprehension of the teacher to filter thru to the mind of an aspiring child; but, upon the whole, it is certain, beyond controversy, that the success of the teacher in teaching, and of the pupil in learning, will depend upon the intellectual equipment of the teacher.

To put literature into a course of study quite irrespective of the teacher's personal appreciation of literary value—to say nothing of accurate discrimination as to the facts—is to

go at the matter from the wrong end. To enact that at a given date all the grades of a certain city shall have nature study is to invite confusion and distraction. It would be comic (if it were not tragic) to suppose that all that is required to make music and drawing a part of the course of study is to have the school board legislate that a certain amount of the time of the pupil, covering a certain prescribed ground, shall be given to work with pencil and paper, and to musical exercises. There is no magic by which these things can pass over from the printed page of the school manual to the child's consciousness. If the teacher has no standard of value in relation to them, no intimate personal response of feeling to them, no conception of the methods of art which alone bring the child to a corresponding intellectual and emotional attitude, these studies will remain what precisely they so often are—passing recreations, modes of showing off, or exercises in technique.

The special teacher has arisen because of the recognition of the inadequate preparation of the average teacher to get the best results with these newer subjects. Special teaching, however, shifts rather than solves the problem. As already indicated, the question is a twofold one. It is a question, not only of *what* is known, but of *how* it is known. The special instructor in nature study or art may have a better command of the what—of the actual material to be taught,—but be deficient in the consciousness of the relations borne by that particular subject to other forms of experience in the child, and, therefore, to his own personal growth. When this is the case we exchange king log for king stork. We exchange an ignorant and superficial teaching for a vigorous but one-sided, because over-specialized, mode of instruction. The special teacher in manual training or what not, having no philosophy of education,—having, that is, no view of the whole of which his own subject is a part,—isolates that study and works it out wholly in terms of itself. His beginning and his end, as well as the intermediate materials and methods, fall within manual training. This may give technical facility, but it is not (save incidentally) education.

This is not an attack upon special or departmental teaching. On the contrary, I have just pointed out that this mode of teaching has arisen absolutely in response to the demands of the situation. Since our present teachers are so largely an outcome of the older education, the so-called all-round teacher is for the most part a myth. Moreover, it is a mistake to suppose that we can secure the all-round teacher merely by instructing him in a larger number of branches. In the first place, human capacity is limited. The person whose interests and powers are all-round is not as a rule teaching in grade schools. He is at the head of the great scientific, industrial, and political enterprises of civilization. But granted that the average teacher could master ten distinct studies as well as five, it still remains true that without intellectual organization, without definite insight into the relation of these studies to one another and to the whole of life, without ability to present them to the child from the standpoint of such insight, we simply add an overburdened and confused teacher to the overburdened and confused child. In a word, to make the teaching in the newer studies thoroly effective, whether by specialists or by the all-around teacher, there must, in addition to knowledge of the particular branch, be sanity, steadiness, and system in the mental attitude of the instructor. It is folly to suppose that we can carry on the education of the child apart from the education of the teacher.

If I were to touch upon certain other matters fundamentally connected with the problem of securing the teachers who make the nominal course of study a reality, I should be started upon an almost endless road. However, we must not pass on without at last noticing that the question is one of political, as well as of intellectual, organization. An adequate view of the whole situation would take into account the general social conditions upon which depends the actual supplying of teachers to the schoolroom. The education of the candidate, of the would-be teacher, might be precisely that outlined above, and yet it would remain, to a large extent, inoperative, if the appointment of school-teachers was

at the mercy of personal intrigue, political bargaining, and the effort of some individual or class to get power in the community thru manipulation of patronage. It is sentimental to suppose that any large and decisive reform in the course of study can take place as long as such agencies influence what actually comes in a living way to the life of the child.

Nor in a more comprehensive view could we be entirely silent upon the need of commercial as well as political reform. Publishing companies affect not only the text-books and apparatus, the garb with which the curriculum clothes itself, but also and in direct fashion the course of study itself. New studies are introduced because some pushing firm, by a happy coincidence, has exactly the books which are needed to make that study successful. Old studies which should be entirely displaced (if there be any logic in the introduction of the new one) are retained because there is a vested interest behind them. Happy is the large school system which is free from the congestion and distraction arising from just such causes as these. And yet there are those who discuss the relative merits of what they are pleased to call old and new education as if it were purely an abstract and intellectual matter.

But I cannot enter upon these larger phases. It is enough if we recognize the typical signs indicating the impossibility of separating either the theoretical discussion of the course of study or the problem of its practical efficiency from intellectual and social conditions which at first sight are far removed; it is enough if we recognize that the question of the course of study is a question in the organization of knowledge, in the organization of life, in the organization of society. And, for more immediate purposes, it is enough to recognize that certain conditions imbedded in the present scheme of school administration affect so profoundly results reached by the newer studies, by manual training, art and nature study, that it is absurd to discuss the value or lack of value of the latter, without taking these conditions into account. I recur to my original proposition: that these

studies are not having their own career, are not exhibiting their own powers, but are hampered and compromised by a school machinery originated and developed with reference to quite different ends and aims. The real conflict is not between a certain group of studies, the three R's, those having to do with the symbols and tools of intellectual life, and other studies representing the personal development of the child, but between our professed ends and the means we are using to realize these ends.

The popular assumption, however, is to the contrary. It is still the common belief (and not merely in popular thought, but among those who profess to speak with authority) that the two groups of studies are definitely opposed to each other in their aims and methods, in the mental attitude demanded from the child, in the kind of work called for from the instructor. It is assumed that we have a conflict between one group of studies dealing only with the forms and symbols of knowledge, studies to be mastered by mechanical drill, and between those which appeal to the vital concerns of child life and afford present satisfaction. This assumed opposition has been so clearly stated in a recent educational document that I may be pardoned quoting at length:

> In regard to education we may divide the faculties into two classes—the doing faculties and the thinking faculties. By the doing faculties I mean those mechanical habits which are essential to the acquisition of knowledge, and are pure arts, such as the art of reading; that of performing arithmetical operations with rapidity and correctness; that of expressing thoughts in legible characters, and in words of grammatical arrangement. These arts can only be acquired by laborious drilling on the part of the teacher, and labor on the part of the pupil. They require little instruction, but repetition until they are performed with ease and almost pleasure. To neglect to impart these habits is to do a great injury to the child; nothing should be substituted for them, tho instruction in other branches which require more thought and less art may be mingled as recreations with them.

I have never seen so condensed and comprehensive a statement of the incompatibility of aims and method for both teacher and pupil as is given here. On one side we have "doing faculties," by which is meant powers of pure external efficiency. These find their expression in what are termed

"arts," which is interpreted to mean purely mechanical habits—sheer routine facility. These are acquired by continued drill on the part of the teacher, and continued laborious repetition on the part of the child. Thought is not required in the process, nor is the result "instruction"—that is, a real building up of the mind; the outcome is simply command of powers, value not in themselves, but as tools of further knowledge, as "essential to the acquisition of knowledge." The scheme of contrasting studies is not so well developed. It is made clear, however, that they appeal to thought, not to mechanical habits, and that they proceed by instruction, not by drill. It is further implied that their exercise is attended not so much with labor as with pleasure on the part of the child—which may be interpreted to mean that they have a present value in the life of the child, and are not mere instrumentalities of further advancement. The situation as regards school work is contained in the proposition that the mechanical facilities based upon sheer drill and laborious repetition must make up the bulk of the elementary education, while the studies which involve thought, the furnishing of the mind itself, and result in a direct expansion of life, "may be mingled as recreations." They may be permitted, in other words, in the schoolroom as an occasional relief from the laborious drill of the more important studies.

Here is the dividing wall. The wall has been somewhat undermined; breaches have been worn in it; it has, as it were, been bodily pushed along until the studies of thought, of instruction, and of present satisfaction occupy a greater bulk of school time and work. But the wall is still there. The mechanical habits that are essential to the acquisition of knowledge, the art of reading, of performing arithmetical operations, and of expressing thought legibly and grammatically, are still the serious business of the schoolroom. Nature study, manual training, music, and art are incidents introduced because of the interests they provide, because they appeal to ability to think, arouse general intelligence, and add to the fund of information. A house divided against itself cannot stand. If the results of our present system are

not altogether and always satisfactory, shall we engage in crimination and recrimination—setting the old studies against the new and the new against the old—or shall we hold responsible the organization, or lack of organization, intellectual and administrative, in the school system itself? If the old bottles will not hold the new wine, it is conceivable that we should blame neither the bottles nor the wine, but conditions which have brought the two into mechanical and external relation to each other.

If my remarks in dwelling upon the split and contradiction in the present situation appear to take an unnecessarily gloomy view of the situation, it should be remembered that this view is optimism itself as compared with the theory which holds that the two groups of studies are radically opposed to each other in their ends, results, and methods. Such a theory holds that there is a fundamental contradiction between the present and the future needs of the child, between what his life requires as immediate nutritive material and what it needs as preparation for the future. It assumes a fundamental conflict between that which nourishes the spirit of the child and that which affords the instrumentalities of social progress. The practical consequences are as disastrous as the logical split is complete. If the opposition be an intrinsic one, then the present conflict and confusion in the schoolroom are permanent and not transitory. We shall be forever oscillating between extremes: now lending ourselves with enthusiasm to the introduction of art and music and manual training, because they give vitality to the school work and relief to the child; now querulously complaining of the evil results reached, and insisting with all positiveness upon the return of good old days when reading, writing, spelling, and arithmetic were adequately taught. Since by the theory there is no possibility of an organic connection, of co-operative relation, between the two types of study, the relative position of each in the curriculum must be decided from arbitrary and external grounds; by the wish and zeal of some strong man, or by the pressure of temporary popular sentiment. At the best we can get only a compromise; at the

worst we get a maximum of routine with a halo of sentiment thrown about it, or a great wish-wash of superficiality covering up the residuum of grind.

As compared with such a view, the conception that the conflict is not inherent in the studies themselves, but arises from maladjustment of school conditions, from survival of a mode of educational administration that was adapted to different ends from those which now appeal to us, is encouragement itself. The problem becomes first an intellectual and then a practical one. Intellectually what is needed is a philosophy of organization; a view of the organic unity of the educative process and educative material, and of the place occupied in this whole by each of its own parts. We need to know just what reading and writing and number do for the present life of the child, and how they do it. We need to know what the method of mind is which underlies subject-matter in cooking, shop work, and nature study, so that they may become effective for discipline, and not mere sources of present satisfaction and mere agencies of relief—so that they too may become as definitely modes of effective preparation for the needs of society as reading, writing, and arithmetic have ever been.

With our minds possessed by a sane and coherent view of the whole situation, we may attempt such a gradual, yet positive, modification of existing procedure as will enable us to turn theory into practice. Let us not be too precipitate, however, in demanding light upon just what to do next. We should remember that there are times when the most practical thing is to face the intellectual problem, and to get a clear and comprehensive survey of the theoretical factors involved. The existing situation, with all its rigidity and all its confusion, will nevertheless indicate plenty of points of leverage, plenty of intelligent ways of straightening things out, to one who approaches it with any clear conviction of the ends he wishes to reach, and of the obstacles in the way. An enlightenment of vision is the prerequisite of efficiency in conduct. The conservative may devote himself to the place of reading and writing and arithmetic in the curriculum so that they

shall vitally connect with the present needs of the child's life, and afford the satisfaction that always comes with the fulfillment, the expression, of present power. The reformer may attack the problem, not at large and all over the entire field, but at the most promising point, whether it be art or manual training or nature study, and concentrate all his efforts upon educating alike the community, the teacher, and the child into the knowledge of fundamental methods of individual mind and of community life embodied in that study. All can devote themselves to the problem of the better education of the teacher, and doing away with the hindrances to placing the right teacher in the schoolroom; to the hindrances of continued growth after he is placed there. The American people believe in education above all else, and when the educators have come to some agreement as to what education is, the community will not be slow in placing at their disposal the equipment and resources necessary to make their ideal a reality.

In closing, let me say that I have intentionally emphasized the obstacles to further progress, rather than congratulated you upon the progress already made. The anomaly and confusion have, after all, been of some use. In some respects the blind conflict of the last two generations of educational history has been a better way of changing the conditions than would have been some wholesale and *a priori* rearrangement. The forms of genuine growth always come slowly. The struggle of the newer studies to get a foothold in the curriculum, with all the attendant confusion, is an experiment carried out on a large scale; an experiment in natural selection, in the survival of the fit in educational forms.

Yet there must come a time when blind experimentation is to give way to something more directed. The struggle should bring out the factors in the problem, so that we can go more intelligently to work in its solution. The period of blind striving, of empirical adjustment, trying now this and now that, making this or that combination because it is feasible for the time being, of advancing here and retreating there, of giving headway now to the instinct of progress and

now to the habit of inertia, should find an outcome in some illumination of vision, in some clearer revelation of the realities of the situation. As this comes, the time grows ripe for scientific experimentation; that is, for a more organized philosophy of experience in education, and for a corresponding attempt to regulate conditions so as to make actual the aims recognized as desirable. It is uneconomical to prolong the period of conflict between incompatible tendencies. It makes for intellectual hypocrisy to suppose that we are doing what we are not doing. It weakens the nerve of judgment and the fiber of action to submit to conditions which prevent the realization of aims to which we profess ourselves to be devoted.

My topic is the situation as regards the course of study. In a somewhat more limited and precise view than I have previously taken of the situation, I believe we are now nearing the close of the time of tentative, blind, empirical experimentation; that we are close to the opportunity of planning our work on the basis of a coherent philosophy of experience and of the relation of school studies to that experience; that we can accordingly take up steadily and wisely the effort of changing school conditions so as to make real the aims that command the assent of intelligence.

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IV

NOTES ON FOREIGN SCHOOLS (II)

It was Oliver Wendell Holmes who once said that the atmosphere is composed of four parts—oxygen, nitrogen, carbonic-acid gas, and education. If this is true at home at the present time, it is none the less of a meteorological fact abroad. The dissatisfaction with old methods and ideals is pronounced, and almost everywhere there is earnest endeavor to make the work of the schools take a more direct and efficient bearing upon the practical problems of every-day life. In foreign countries conditions under which the reformation must be worked out are vastly different from those which environ the workings of the public-school system of the United States. There are a few traditions in this country which offer more or less obstruction to the work of reform; but all combined they are but a shadow when compared with the stuff that composes the substance of those found abroad. These oppose themselves as almost insuperable barriers to much that we are pleased to call progress.

In this country the public schools have not wholly escaped the adverse influence of ecclesiasticism, and before our system can rise to a much higher level of efficiency that influence will yet have to be fully reckoned with. But, in the old countries where the Church for centuries has dominated the intellectual life of the people, dictating not only how much they shall have, but what the nature of the intelligence shall be, the weight of tradition seems almost too great to be lifted. Again, in this country, we must admit that there is something of class distinction; but our history shows that the people composing the classes have been continually shifting from one to another, and the ever-present possibility of such changes has served to make all parties somewhat mindful of each other's interests. But in countries where these classes

have existed for a long period, and where the people now composing them have descended, time out of mind, from ancestors of similar social and political position, each class has grown to feel that neither has any mission on earth in common with the other.

In the United States the feeling that education is a function of the state is the dominant one. In most instances, in other countries, the education of the masses has been the function of private enterprise and of individuals. As a result, there are jealousies which seem to isolate many good school people from each other, who should be better acquainted, and whose work, if united by a common purpose, might be made much more effective. This feeling of separateness is not at once to be gotten rid of, even when the schools are all brought under a common governmental scheme.

But in spite of these adverse conditions, and others of a minor nature that might be mentioned, the spirit of progress in education is almost as much alive in the chief foreign countries as it is at home, and the American visitor finds a great deal to be studied with interest and profit.

Between the class of schools described in the March number of the EDUCATIONAL REVIEW, which represent the extreme front of radicalism and those in the extreme of conservatism, there are many grades of school work, all of which are being inspired with a desire to modernize and improve educational means and methods. An interesting school of this class, which was opened as late as September 20, 1898, is the Cardiff School for Boys, located at Cardiff, Wales. The work there is being pushed with great thoughtfulness and enthusiasm under the head-mastership of Mr. J. J. Findlay, who is already familiar to the readers of the EDUCATIONAL REVIEW. Mr. Findlay brushes aside all commercial or technical aims as secondary, and sets up character as the ideal for which education should stand. He seeks to have the boys realize this ideal thru the development and organization of the school as a society. To this end the Cardiff school makes a special feature of what is called the "house system." The boys, on entering, are distributed for teaching purposes into "forms,"

as follows: Junior division, upper and lower forms, average age eleven and one-half years; middle division, III and IV forms, average age twelve and one-half years; senior division, forms upper IV and upper V, ages from fourteen to seventeen years. No one is retained in the school beyond the latter age without special arrangement, as at that period of their work the boys are supposed to be fitted to enter technical schools or the universities. For the purposes of developing, organizing, and maintaining the corporate life of the school as a social body, on entering the boys are distributed into " houses," each of which is under the immediate direction of two of the instructors, one called a tutor and another a vice tutor. At the time of the writer's visit there were three " houses," A, B, and C, each consisting of about forty boys. Each pupil remains attached to the same house thruout his school life. The " house " provides an organization adapted to the social needs of young people, guiding their active pursuits in games and other out-of-door employments; and, above all, it gives opportunity for *esprit de corps*, for self-denying devotion to a common cause, which is the best augury for good citizenship and patriotism in later years.

In the course of study the subjects are grouped according to the following principles: (1) Equipment for character, the humanities taking the chief place; (2) equipment for a livelihood, the studies bearing upon the special career for which the boy is destined; (3) balance of studies, to secure an all-round development: culture in knowledge (humanities and natural science) and in skill (all forms of expression); recreation; (4) correlation, such an interchange among subjects as to enable all to contribute toward a realization of the ideal of character; (5) sequence, the proper development of each branch of study, following the needs of the developing mind thru childhood and youth. The spirit of this school is undoubtedly much in advance of the course of study as here indicated. The good-fellowship among the pupils and teachers, each with the other, seemed to show, what really ought to be true, that the equipment for character does not lie alone in the few studies set apart for the special function of char-

acter-building. School people appear to be the last to discover that the lowly but Heaven-ordained employments by which mankind earns its livelihood, themselves contain the real stuff of the humanities; that when these employments really enlist the whole being from the standpoint of both the individual and society, then is character-building in its best sense assured. Everything else is secondary, and but tributary. Fortunately, whether the course of study recognizes their true function or not, the natural interests and occupations necessary to the social organization of the school will continue to be the efficient factors in character-building, and their influence will be fresh and potent when what was gleaned from the so-called humanities has been long forgotten. As a diversion, amusing but showing something of the communal life of the school, the head master and one of his teachers were engaged in a game of chess. Each had his own board at home and a third was provided at the school. Upon the latter, which occupied a place in the corridor, the moves of each player were shown from day to day. The school appeared to be following the game with great delight, the pupils seeming to have almost a war-bulletin interest in the board each morning. In the government of the school a mild form of the "prefect system" is employed, under which the day's offenders are tried, sentenced, and punished by some of the older pupils. While it is not wholly bad, the system seemed rather out of accord with the spirit of the place, and the same may be said of the cap and gown generally worn in England by the instructors. When it happens, as it occasionally does, that these garments are not especially tidy, the effect upon an unbiased observer is to detract from the dignity of the wearer rather than to add to it. But this is a minor matter. The chief obstacle in the way of Mr. Findlay's realization of the school's ideal is the fact that "the school is submitted to annual inspection and examination by competent examiners." The school stands for character, but it has not yet occurred to the "competent examiners" that, if they were to hunt for signs of character anywhere on earth except in a schoolroom, the ordinary ex-

amination test would be the last they would think of applying. If character is to become, actually, the great end of all the work, then the teachers who live with the boys under the excellent conditions for development which this school affords are the really competent examiners, not an outside board whose demands may be met easily by a few set formulæ turned off for the occasion. These remarks express merely the judgment of the writer, and are not inspired by any comment or criticism made by Mr. Findlay on the function of his board of examiners.

Among those abroad who take advanced grounds as exponents of the theory of concentration in education, Professor Patrick Geddes of Edinburgh occupies a leading place. In his Outlook Tower, located at the head of historic old High Street, every stone of which is eloquent of the past, and almost under the shadow of the old castle, overlooking the entire city and country for miles around, he is making a great effort to render objective and to give concrete expression to his theories of education. The old building itself, in its arrangement, sets forth the spirit of Mr. Geddes' work. The tower-like structure is surmounted by a dome which has for a pinnacle a cylindrical chamber a foot or more in height and about the same in diameter. This chamber, open on one side, revolves upon a vertical axis, and contains a plane mirror set at such an angle as to reflect the rays of light from the landscape downward thru a lens. At about the height of a table above the floor of the dome, which is a chamber that can be darkened, and is some ten feet or more in diameter, a white stage is suspended to receive the pictures formed by the lens overhead. By varying the angle of the mirror the nearer or more remote portions of the landscape may be brought down upon the stage in a wonderfully interesting and realistic moving picture about four or five feet in diameter. With the mirror turned to the west one finds displayed before him the gray old castle perched upon its ancient volcanic plug, now denuded until on three sides it presents almost a sheer precipice rising four hundred and forty-five feet above the sea. On the fourth side is the broad sloping

esplanade whose rough cobblestones are not more numerous than the bones of the witches and martyrs and early reformers who perished there, most of whom had

> "Lived unknown
> Till persecution dragged them into fame
> And chased them up to heaven."

Now on this spot we watch the evolutions of soldiery in the gorgeous trappings of the Gordon Highlanders, who are on the eve of departure for the front in South Africa.

Turning the mirror to the opposite side it brings to view the panorama of old High Street and the long slope reaching to the ruins of Holyrood. This thorofare, until about the middle of the eighteenth century the abode of the Scottish nobility, many of whose buildings still display stilted Latin inscriptions, the impress of their early aristocratic owners, is now thoroly infested with besotted creatures in human form.

To the west, across the natural moat dug by a glacier, fronted by Prince's Street, is the New City, instinct with modern life and in sharpest contrast with Castlehill. From the east is brought down King Arthur's Seat, which rises to a height of more than eight hundred feet, and beyond this a country landscape that blurs out in the distant haze.

From the technical side alone this great picture is exceedingly interesting and instructive. The color values of the landscape and the perspectives are revelations to anyone not trained to observe as an artist. But far beyond this, the picture as a whole is impressive. Before the scenes so presented one simply must study not merely history, but everything that pertains to life. Without effort the imagination dissolves the present picture into one of the past. Gnawed by the ancient tooth of time, the landscape presents to the whole a background of mountain, hill, valley, plain, loch, and sea. These natural features have written something into every chapter of human history enacted here, having ministered to bespangled prince and wretched pauper, each in his turn, but now they are beginning to prophesy a new life.

Placed in vital touch with the problems of life on this spot,

with a glimpse of its origin and a hint of its destiny, by means of the vivid presentations of this living picture, one is impelled to seek for the ties that unite it to the rest of the world and to study the contributions it has received from without. Descending to the next floor below, and stepping out upon a flat roof of stone, the students' attention, by means of lines cut in the stone, is directed to other great centers of life in the kingdom, the empire, and the globe. In a room on this floor there is an arrangement called an episcope. By means of this, all the other important places on the earth are shown on a flat surface in their relations to Edinburgh as a center. A body representing the sun is suspended in the middle of the room; on a shelf around the wall a globe is moved by means of which the problems of mathmetical geography may be studied. Adjoining is a cloister-like room into which ground glass, while obscuring the view, admits the light. Here the student, undisturbed by sights and sounds without, may give expression in some concrete form to the image he has constructed from his observations.

Another room below is given to the study of the British Isles, a large map of the United Kingdom being painted all over the floor. Here also is a fine relief model of the country covered by Edinburgh and its environs. Painted upon the walls are pictures of both local and general historic interest. On the floor below, the study of the world is reached. There is suspended here a four-foot globe which, with sundry accessories, brings to the student the various suggestions necessary for the construction of his earth-picture. Adjoining the rooms containing the illustrative materials are library rooms supplied with books and papers placed at the disposal of the student, who may use them as required. Passing from below upward, therefore, the student sees the whole from one point of view; and from above downward, he sees it from another; and into this one center all the subject-matter for the study of life converges. It is the aim of Professor Geddes to establish in one place for the benefit of students what shall be, at once, observatory, laboratory, library, gal-

lery, and museum. It is a great conception, whose illustration in Outlook Tower is infinitely greater in its suggestiveness than it can possibly be in its realization in the space provided. During the year Mr. Geddes and others who work here meet classes who study sociological, scientific, and other subjects. The summer meeting is a great feature of the work of Outlook Tower. Tho of recent origin, it is a popular movement that attracts educational people from all parts of the country. Properly developed and carefully presented to the Edinburgh teacher, as a center of study, Outlook Tower might prove itself immensely helpful in vivifying the work of the pupils. While in America such facilities for work would be sought for and almost immediately utilized, in Edinburgh the pulse beats slower, and considerable time must yet elapse before it there obtains due recognition.

The one school abroad which, in recent years, has influenced teaching most strongly in this country is that in charge of Professor Rein at Jena. Unfortunately the time the writer was able to give to this school was too brief to admit of the careful study which its work and reputation would warrant. A glance, however, is sufficient to enable one to discover some of the vital things that have contributed to make this school and its master justly famous. In the first place, the teachers, who are close students of Professor Rein's work in the University of Jena, seemed to have attempted the most exhaustive preparation for the lessons they were required to teach. It may be said, of course, that if persistently and intelligently kept up, this habit alone will make any school famous. It redounds to the credit of the Germans that their teachers are expected to know a great deal before they begin to teach. But beyond this it was evident in the recitation that the method of presentation had received careful attention, even almost to the point, it would seem, of overdoing. It is said that if, in his teaching, the instructor thru embarrassment or oversight misses one of his "formal steps," the boys themselves will call him back to it. The alertness, genuine interest, and earnestness uniformly displayed by the pupils were admirable. At the time of the visit the program

contained the following subjects: Religion, history, English, reading, geography, science, writing, drawing, and music. The school consisted of three divisions of about a dozen pupils each, representing primary, intermediate, and grammar grades. One receives the impression that the work is somewhat stiffened thru overmethodizing; much appeared to be done for no other purpose than that offered by drill in its baldest sense. A number lesson in the youngest grade consisted of counting and adding colored spots on a card by means of which the "9's" were taught and reviewed. In this lesson, precisely the same formulæ, as answers, were exacted from all the pupils. The answers by the pupils thruout the school were all given in an unnaturally loud and bawling tone of voice. There is one peculiarity noticed in the smaller pupils of this school and all the other German schools visited. If a pupil fails to give a correct answer he droops down upon his desk and weeps; but if the answer is correct there is corresponding rejoicing. In a Berlin school for girls, where the pupils were thirteen or fourteen years of age, the same habit seemed to be universal. A correct answer was duly celebrated by all the immediate friends of the pupil, who gave it, vigorously patting their breasts. There was no external cause for either display of feeling, so far as one could observe, as the teachers seemed to be uniformly courteous and kind. As a writing lesson, the pupils had repeated several times the story of "The greedy dog," which they had previously read and dramatized with much spirit. In music the children were most natural, and the time was given to singing rather than to drill. As a preparation for the drawing lesson the teacher had drawn very carefully the capital of a column on the blackboard. After spending considerable time in discussing it with the class, they copied it on paper. In science there seems to be less disposition to allow the pupils to take the initiative than in our own schools. The teacher does most of the work for the pupils. However, it is done in a painstaking and skillful manner. English was being taught by a young man from England who was trying the "direct method," by means of pictures. Adjoining the

schoolhouse is a small plot of ground devoted, in season, to the cultivation by the pupils of vegetables and flowers. At the time of this visit, however, there appeared to be no "handwork," as Americans understand it, in the school. Almost everything done by the pupils could be correctly styled "bookwork." The school bears the strong impress of Professor Rein's ideas concerning the place that history should occupy in the curriculum; that subject is maintained as the organizing center. Whatever differences may be held regarding their application in schoolroom details, the world is glad to acknowledge the great value of the principles underlying the correlation of studies which Dr. Rein has done so much to emphasize and to set forth in a tangible form. The spirit which his work infuses into the lives of the peasant children who compose his school, the enthusiasm which he inspires in his students, and the vivifying effect of his influence felt in our own schools, all bear indisputable testimony as to the practical efficiency of his philosophy and work.

One of the most interesting aspects of the foreign educational field is that presented by the schools designed to furnish the masses with an industrial and technical education. In this country the opponents of manual training for years were able to hinder its introduction into the schools by maintaining, among others, the astonishing proposition that it would result in teaching the children the trades. While it is difficult to understand just why this would be a serious outcome, the admission of manual training to the schools, even on trial, was hardly countenanced until its advocates had calmed the fears of the public with the assurance that it was to serve a lofty moral purpose that had but little if anything to do with real skilled handwork by which one might possibly earn an honest living. This view of the case seemed to be urged by the advocates and accepted by the opponents on the theory that, ultimately, we are to become a strictly professional people. But in foreign countries, where they must confess a working-class as a distinct branch of the *genus homo*, the industrial schools make a frank avowal that it is their function to teach the trades.

One of the best schools of this type that was visited is the Heriot-Watt College in Edinburgh, under the direction of Principal F. Grant Ogilvie. This institution was founded in 1821 by Mr. Leonard Horner as the School of Arts. In his address to the students at the first session, the founder gave the keynote of the school's mission in these words: "You must always bear in mind that the School of Arts has been established for the purpose of giving you real and substantial instruction—not to amuse a vacant hour and to excite your wonder by exhibiting some showy experiments; that it is intended, in a word, to enable you to carry away information that will be of solid advantage to you in the exercise of your trade." At the present time the college announces every facility for preparing young men as merchants, manufacturers, or engineers, and for supplying evening instruction to those desiring it who are already employed. The building is large and well fitted with laboratories and shops for work in mechanics, engineering, physics, and chemistry, which subjects have the proper accompaniments of drawing, modeling, etc. The night classes alone number about fourteen hundred students. Some of these are preparing for apprenticeship, and others are those who, having left the school and served their apprenticeship, have now returned for the farther prosecution of their studies. The school is open to almost anyone who desires help of a mechanical or technical character. In addition to the regular staff of instructors, Principal Ogilvie has added others who have been selected from the ranks of the trades people. These work at their calling during the day and give instruction to classes in the evening. Among those so employed were an architect, a stone-mason, a house-decorator, and a house-painter. These people bring to the classroom the practical knowledge acquired in the actual work in its relations to life, and thus do much to establish confidence in the minds of the pupils and the public as to the practical value of the school.

The dualistic conception of human life is responsible for no greater error than that of leading people to suppose that a trade school, *per se*, can turn out nothing higher than a

muscular and skilled but brainless and uncultured handworker. There is no greater mistake than this, unless it is the other notion that has dominated the schools that mental development without the use of the hands can result in the highest human efficiency. It is interesting to observe the mergence of these two ideas into a common educational scheme. The technical schools of the type of the Heriot-Watt College are finding it necessary to enlarge the opportunities for work in language and other studies of a literary value. On the other hand, in these latter days, when the school has assumed responsibility for almost all of the pupil's time, having withdrawn him largely from the home occupations and other employments which formerly consumed his time in the long vacations, the purely literary curriculum has proved itself utterly inadequate in furnishing what the present demands of an educated person.

In the Craft-School, located in the east side of London, there is an exceedingly interesting attempt being made "to apply technical education to art training." This school, started ten years ago under the name of the Whitechapel Craft-School, was supported at first by subscriptions, but is now awarded a grant by the Technical Education Board of the London County Council. The curriculum of this school is identical with that of other technical and art schools, but its chief purpose is to apply truly pedagogic methods in the training of the craftsman. It seeks to develop an educational scheme that will avoid a slavish following of improper workshop methods, the result of a corrupt taste, and yet it aims to so ally itself with the world's work that its students shall not be turned out to find no commercial demand for what they can do. In a report upon the school, H. Llewellyn Smith says that the idea dominating the work is conveyed by two words, development and correlation. By development it is the aim to make one grade of the work merge naturally into the following one, and at the same time it is to be adapted to the changing needs of the developing youth. By correlation the attempt is made to treat the various crafts as artistic modes of expressing thought, varying according to

the requirements of the medium to be used, "but all linked together by the fundamental unity of the idea to be expressed." This school has a warm friend and an enthusiastic supporter in Mr. Ebenezer Cooke, who is one of Ruskin's pupils and the moving spirit in the newer art work of the London schools. Mr. Cooke has devoted much time and energy to the development of a method of drawing with color which he calls "brushwork," in which the pupils use ordinary paint brushes and water-colors. In doing this work the pupils are taught to take a natural form, such as a leaf, a flower, a bud, or a fruit, and work up an artistic design for some particular purpose. In the Alma School, which is in a location certainly not favorable for the observation of nature unaffected by man, the children showed remarkable skill and taste in the use sometimes of but a single spray or leaf that had been given them from which they would develop many beautiful and appropriate designs.

In the Craft-school the designs are first outlined in chalk on small blackboards, each about eighteen inches by two feet square. These are made from stiff strawboard covered with blackboard composition. The designs are further worked up in color with stiff brushes on rough gray paper. They are then carried forward in the form most appropriate for the purpose of the work. In some cases the design is cut in paper stencils, which are used in laying the figures on surfaces. Again, it may be worked out in hammered brass or copper or in clay from which plaster casts can be made. Some of the boys were at work upon a plaster frieze which they were putting up in the hallway of the school-building, and the effect was very good indeed. In other cases the finished product appeared in a wood-carving. One boy was nearing the completion of an elaborately carved bracket made from a solid block of wood, which was intended to fit a corner upon which a bust or vase might be placed.

The class visited consisted of about fifteen boys, from ten to twelve years of age, who were in charge of Mr. Ebenezer Cooke's son, Mr. G. C. Cooke, who was trained in this school and is now employed as the teacher of drawing. These boys

attend the board schools during the day, but the work with Mr. Cooke is alluring enough to draw them to the Craft-School from six till eight or nine in the evening—a well-deserved compliment to his efficiency as a teacher and a substantial justification of the work of the school.

Mr. Ebenezer Cooke is an earnest and most inspiring man, whose life, touched by the spirit of his master, Ruskin, is absolutely devoted to alleviating the drudgery of the children in the none too attractive Board schools. His work shows in a most striking and convincing manner what a well-spring of artistic life there is in childhood, even under surrounding conditions that are most unfavorable for its development. The designs of the children, worked out by single strokes of the brush, both as to color combinations and as to form, were in many instances very beautiful. What the early awakening and encouragement of this taste and feeling for the beautiful will do for these children as long as they live, for their homes and for their communities, no one can possibly estimate. The great need of the children is enlarged opportunity for the study of nature. A certain sameness in the designs can be attributed directly to the fact that the range of observation of natural forms has been limited. With an opportunity to feast on the wealth of material that an ordinary and prosaic landscape would afford, the value of the work to the children in inspiration and result would be greatly increased.

In Stepney Causeway, in the Whitechapel district, there is an institution engaged in rescue work which was founded by Dr. Bernardo nearly forty years ago. The only requirements for admission to this school are poverty and destitution. Over the doorway in large letters there is the statement that no destitute child of any race or creed is refused admission at any hour of the day or night. The foundation of this great home school, which deserves an entire chapter to itself, is industry. A model in all the appointments of life which relate to the physical, mental, and moral welfare of childhood, the institution seeks to provide almost every kind of employment that is capable of leading to an honest occu-

pation. After remaining in school until thirteen or fourteen years of age, long enough to secure the rudiments of an English education, the children are allowed to choose a trade. A tour of the building showed the boys at work in the following lines: Shoe-making, bristle-brush-making, mat-making, blacksmithing, tin-working, printing, baking, carpentering, and tailoring. The last was chosen largely by the cripples who were unable to use their lower limbs. The crèche, the hospital, the culinary department, laundry, and dormitories are all models of neatness and sanitary arrangement. Since the founding of the school something like forty thousand destitute children have been cared for in the institution. Dr. Bernardo has devised an interesting and effective plan for looking after the welfare of his wards after they leave the home. To throw them back into the slums again would but make matters even worse; he has developed, therefore, an emigration scheme by which thousands of his pupils are sent to the colonies. Between 1882 and 1888 twenty-four hundred were sent to Canada alone. One part of the work of the carpenter shop is to make the " Canada chests " for those who emigrate. More than this, by a well-organized system of visitation, these boys and girls are carefully looked after and assisted in establishing and maintaining themselves when they have landed in their new homes. The age of the emigrants is fifteen or sixteen years. One aristocratic old English lady, in speaking of this feature of Dr. Bernardo's work, was highly indignant—asserting that he had no right to send to other countries girls whom he had trained up to " service " when English homes stood so greatly in need of just such help. But the secret of the eagerness displayed by the young emigrants to get away is explained in their most frequent remark that they want to go to some place where they " can have a chance "—something that they certainly would be denied if they " went out to service " in the English homes of the class to which this woman belonged. At Ilford, in Essex, a village of cottage homes has been established, and is maintained by and for girls, who receive a careful training corresponding to that given to the boys.

The schools of the common people in England and France seem to be beset by many of the drawbacks that are found in our own public schools, and some of the evils appear to be intensified. In the former country primary teachers were found that had charge of from eighty to one hundred and twenty children in one room! As a result, there is a good deal of concert work. One principal explained that it was possible to thus crowd the lower grades because the work there had to be more mechanical! In Paris, the lycées are excellently housed, fairly equipped, and the teachers as a rule are trained and scholarly men, but the boys are treated as a herd. In one of the best of these the sleeping apartment was one immense room in which a hundred or more boys were domiciled. Among the common schools one looks in vain for the fine school buildings that now almost every small town in this country can afford. In Paris the schoolhouse is frequently on a dark and narrow street, and is to be distinguished from the other buildings that present a solid front in an endless row only by a disreputable-looking tricolor flag—the symbol of the republic. The inside is bare, unattractive, poorly lighted, and, apparently, absolutely without ventilation. The best of these schools have equipments for manual training and a considerable amount of illustrative apparatus. But the work is almost without exception stiff and bookish. Nature study has very small place in the schools at present, but there is a strong feeling setting in the direction of this subject. The work of Mr. T. C. Horsfall in the Manchester Art Museum in bringing children into closer touch with nature is worthy of special mention.

In conclusion, it will be of interest to point out briefly a few of the things which seem to mark the general educational situation in the three countries visited—Great Britain, France, and Germany.

First, it is a significant fact that there is a robust and well-organized educational movement in each of these great European powers that is directed as straight as an arrow from the bow to the one end—Democracy. They are not mere coincidences. They are more than accidents of the time

growing out of the fortuitous meeting of the men and women who have created them. The enthusiastic public recognition and support which they receive means that they have tapped a current of public sentiment that is setting strongly toward greater individual liberty. Altho profoundly influenced by the peculiar social, political, and ecclesiastical traditions of race and country, these neither obscure or impair the single underlying purpose that controls them all.

Second, the best schools are conducted upon the idea that the school is the home of the pupil, and the organization, therefore, is a truly social one. The new education in our own country is aiming to put the school into the home; abroad, the home has gone into the school. Whatever may be said against the plan, the one advantage remains that under such conditions the whole current of the child's thoughts may be centered upon the one thing, the "school home." This results in a complete enlistment of self that our public-school system finds it difficult to obtain.

Third, a great effort is being made to secure a most favorable physical environment. Each seeks to place his school under the almighty influence of some great work of nature. Dr. Lietz said: "I arranged the windows of these rooms to open out toward the Harz; those mountains will teach the boys as much as I." Abbotsholme overlooks an English landscape of rarest beauty. Dr. Badley lays great stress upon the wooded Downs and the glorious views of his new location in Hampshire; and L'École des Roches is a name significant of the beautiful location of the school in Normandy.

Fourth, the attempt is made in the "home schools" to reduce life to its simplest terms. In our own country life has become so complex that no child can live it without a serious risk of becoming a nervous wreck. A hundred things are brought into the schools only to whet the appetite for a hundred more, and overburdened nature at last gives way. But in the schools observed there is a very close correspondence between the actual needs of the pupils and their wants. Ilsenburg is the simplest of all. Sandals, low socks, knicker-

bockers, jerseys, and Tam O'Shanter caps form the outfit of clothing; the food, while wholesome and abundant, is plain, and all equipment is such that the boys may understand and actually use it. At Abbotsholme and Bedales there is the same garb for the boys and masters, but the latter wear in classrooms the cap and gown.

Fifth, the greatest importance is attached to physical training. There is a large amount of time spent in games, excursions, and informal exercise in the open air. In the German and English schools much industrial work is connected with the life of the place, and the tendency is, perhaps, to give the games a secondary place. In the summer great excursions are planned, which often extend thru several of the continental countries. Each of the principal schools mentioned in the former article has visited the others, making a stay of several weeks. The great value of this interchange of courtesies can hardly be estimated. Even in winter, with four feet of snow on the ground, Dr. Lietz, with a party including some of his youngest boys, climbed the Brocken. The teaching may not always be first-class, but the aptitude on the part of the pupils resulting from their splendid physical condition atones for much of it that is poor. The boys are able to learn "on the run."

While visiting these four schools the writer made bold to invite the masters and their pupils in the name of the school people of the United States to visit this country in a combined excursion party and to make a tour during the long vacation. The invitation was accepted and a plan was seriously considered for the present summer, but unavoidable circumstances in each case have arisen which will prevent its consummation this year. All, however, have expressed the hope of carrying out the plan a little later. One need not here enlarge upon the immense educational advantage of such an international excursion to both the host and the visitors.

Sixth, a very great advantage offered by the "home school" is that it is possible to fill the day completely with educative work. From the moment the boy's eye is opened

in the morning until he closes it at night there is incessant activity. The moral leakage which usually takes place in the "after-school" hours and on the Saturday vacation is practically prevented. It seemed not like the dull round of duty, but the joyous doing of that which everyone felt must be done. There was no opportunity for a boy to sequester himself either for the purpose of sulking or plotting mischief. The schools were all marked by a healthy good nature, and great kindness and courtesy prevailed. The teachers have many instances to show the effect upon the pupils of this simple life and straightforward treatment.

Seventh, there is a directness expressed in the purpose of most of the industrial work which results in the turning out of craftsmen well equipped for their life work in the trades. It must be observed here, however, that this condition of things exists, not so much because the people believe in the general efficiency of handwork in a scheme of liberal culture, as it does because the upper classes hold that anyone born at the tradesman's social level ought not to attempt to rise any higher, and the trade school is therefore the special form of education which he most needs.

There is the spirit of a new education abroad as well as at home; but its great handicap seems to be the lack of funds. Everywhere one is met with the remark, "Oh, you can do anything in America—you have the money!" The people most interested in education have the least interest in war. When improved and more enlightened educational means and methods bring the dwellers of the different countries into closer contact with each other, then may one hope for war to cease. In education there is but one nationality—but one common interest—that of humanity. This is the feeling exhibited everywhere by the people who, in their endeavors to better the condition of the masses thru improvement in the schools, are laying the really solid foundations for the future.

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V

SUGGESTIONS FOR TESTS ON SCHOOL CHILDREN

The Iowa Child-Study Society appointed a committee in 1899 to draw up a plan for a series of tests to determine some of the most important individual needs and conditions of children in school. Upon the suggestion of the chairman of this committee, Professor G. T. W. Patrick, and with his co-operation the writer, undertook to work out a series of tests in the psychological laboratory of the State university, and to give them a thoro trial in the public school.

Regarding child-study, it is easy to say that something ought to be done; it is more difficult to state exactly what should be done; it is hazardous to do it. The field is so vast, the ground so unbroken, the means at command so crude, local tendencies so varied, individual preferences so strong, that no two investigators would work out the same solution of the problem before us. The following suggestions are herewith submitted for discussion, criticism, and possible trial, now after we have ourselves found them successful both in the laboratory and in the school.

As a guide in the selection of the tests, we adopted the following limitations: (1) They shall be such as shall best reveal the immediate needs and further the welfare of the child in the public school. (2) They shall be such as have been developed and demonstrated successfully by approved methods in the laboratory. (3) They shall be such as teachers can perform without much technical training. (4) They shall be the best obtainable, cost of apparatus and labor being secondary considerations. (5) They shall be so related and organized that, when taken together, they shall bring out systematic knowledge of the child.

Test I.—(1) *Registration;* (2) *Systematic observation.*—

The first step is to gather what information may be obtained from the teacher and the school records. Under the head of registration, the place, date, and hour of the test; and the sex, age, grade, and standing of the child are reported by the teacher in the room to which he belongs. The same teacher also records her estimate of the child's mental ability and bodily health, as well as any ailment, bodily defect, or marked peculiarity known to her.

A physician can tell much about the peculiarities and needs of a child by a brief examination without instruments. It is possible for the teacher to learn the elements and principal points in such an examination and make the test profitably. These systematic observations may be made much more general than the exact tests which follow, and therefore they constitute an important supplement to them. The throat is examined for deformations, foreign growths, and inflammations; likewise the nose. Throat and nose troubles are often more serious than eye troubles. Developmental defects, signs of degeneracy, defective nutrition, balance of various parts of the body, motility, irritability, steadiness, complexion, and texture of the skin, eye-signs of organic weakness and motor disturbances, defective speech and breathing, inadequate dress, and objectionable manners are observed. In order to make this test, the teacher must have read a good deal on the subject, and must also have a convenient outline scheme for the observations, as there are several points to be observed under each head. Such an outline with references and specific directions will be published in the final report on these tests. There is obviously no space for it within the limits of the present article.

Only one piece of apparatus is employed in this test. It is ostensibly for the measuring of steadiness, but virtually for the purpose of keeping the child in the most favorable condition for examination. The apparatus is Scripture's steadiness gauge, slightly modified. On a target board there is a metal plate which has two round holes at the same level, each one centimeter in diameter and five centimeters apart. They are separated by a partition which projects five centimeters. An electric circuit is completed from the metal plate, thru a dry

battery, a sounder, and a sharp pointer. The child stands erect before the target and, with a free-arm lunge, thrusts the pointer alternately into each of the target holes, counting how many times he succeeds before the click of the sounder indicates a failure. He is allowed to continue as long as he is wanted in this attitude of attention and abstraction. The number of successes in a given number of trials is a measure of his steadiness.

Test II.—(1) *Physical measurements;* (2) *Statistics.*—A few physical measurements are necessary for the interpretation of the other results, as well as for their intrinsic significance. There is nothing new in these. A platform scale is used in the weighing, and on this scale is also a height gauge. The height of the shoe heels is deducted by caliper measurement. The pulse is taken both at the beginning and at the end of the series of tests. Chest measure and chest expansion are measured by a plain tape line. Lung capacity, which has recently been well termed "vital capacity," is measured by a wet spirometer, which shows how many cubic inches of air can be expelled from the lungs in a single expiration. Grip is measured by an adjustable coil-spring dynamometer, invented by Dr. Smedley, school expert in Chicago.

Statistical data are obtained from the child (1) on the distribution of his time in manual labor, active play, quiet amusement, mental work, and sleep; (2) on the use of coffee and tea; and (3) on the causes of interruptions in school attendance, cases of illness, and present condition of health.

Test III.—Fatigue and physical development.—This test is made by an ergograph—"work writer." The ergograph is a piece of apparatus by means of which graphic records of the amount, the duration, the regularity, and other characteristics of the work done by a particular set of muscles and the corresponding brain centers may be produced. The record is called a fatigue curve, because it shows the gradual decline of the power to work as fatigue develops. The ergograph is seen in Fig. 1. A is an adjustable arm rest. The child lays his outstretched arm upon this support and grasps the handle B; the chain C is shortened until it becomes taut. The chain con-

nects with a rope which runs over a pulley and back to the coil-spring D; the pull on the handle is therefore exerted on the spring. The record of the amount of the pull is made on the paper strip E, which is stretched over two rollers. When the spring D is stretched, the lever F falls a corresponding distance and a projecting arm G, from its fulcrum, carries a lead pencil which makes a tracing. The record thus made is permanent, and the amount of the pull may be read off at any time by means of an empirical pound scale. For every pull the lever H drops and thereby moves the ratchet wheel I along one notch; this moves the record paper forward one-sixteenth of an inch. Thus the recording is entirely automatic.

The child stands so that the outstretched arm makes an angle of 45° with the median plane. Only one movement is permitted, namely, the upward bending of the arm at the elbow. This movement was selected because it brings into action those muscles by which we ordinarily show our strength, because it is a natural and easy movement, not dangerous to the weak, and because it can be limited better than any other desirable movement. The child is first required to make one pull to indicate his maximum strength. Then a metronome is set to beat once in three seconds, and he is required to pull once for each tick of the metronome, each time pulling as hard as he possibly can. The repeated pull will, of course, not be so great as the single pull, and it will decrease gradually as fatigue sets in. Ordinarily the child becomes exhausted in less than two minutes. First the right arm is tried, and then the left. The fatigue curve proper is a line joining the upper extremities of all the consecutive tracings in a trial. The regularity of this curve is an index to the power of voluntary control over movements. Fig. 2 shows the fatigue curve, schematically, for three boys of the same age and height, but of different types of physical development. A is the record of a healthy, active boy, with well-developed body and mind. B is the record of a bright but pensive, pale, ill-nourished, inactive boy. C is the record of a strong, burly fellow, neurotic, listless, inattentive, and irregular in habits. A is in good condition; B needs physical development; C needs to be saved from becoming a nervous

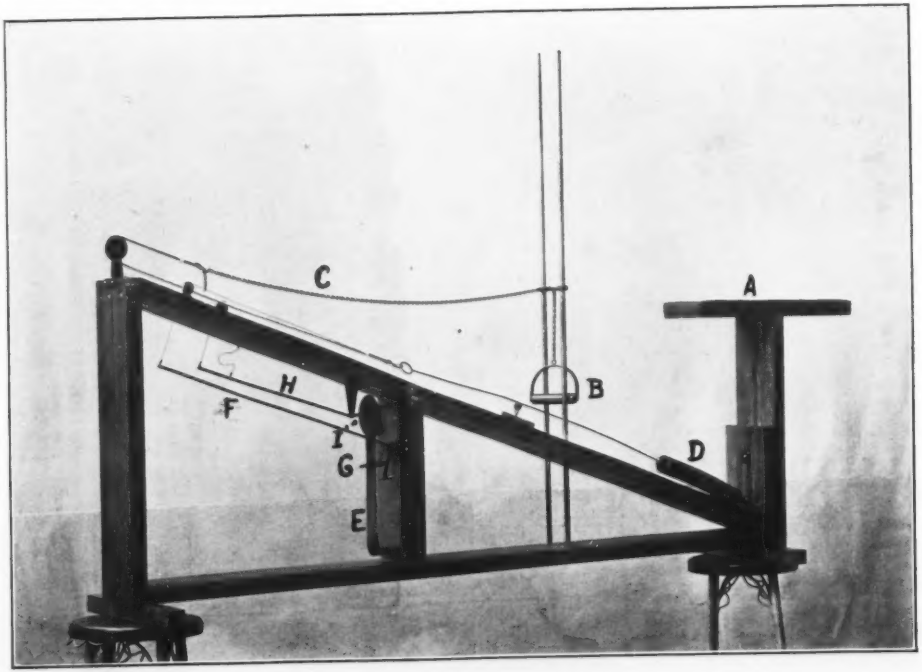

FIG. 1.—THE ERGOGRAPH.

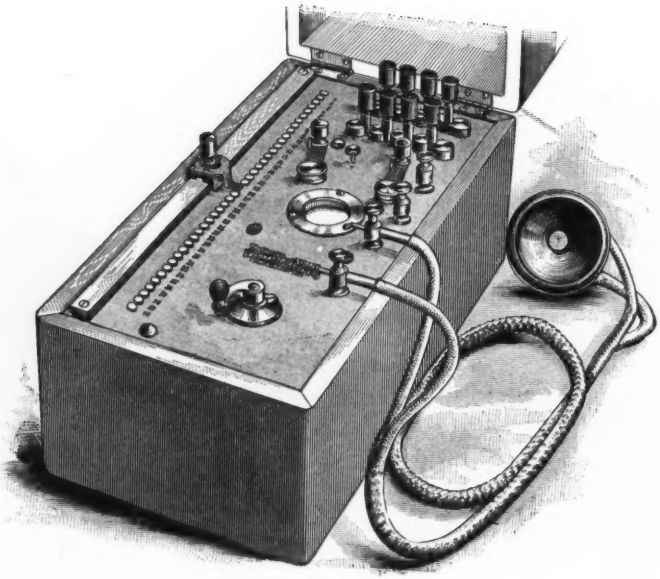

FIG. 3.—THE AUDIOMETER.

wreck. Records like these must be interpreted with reference to age, sex, employment, height, weight, health, distribution of time, condition during the test, and other correlates of physical development.

Tests IV.—Sight.—The need of sight tests is well recognized. The methods and apparatus for these tests have been so satisfactorily developed by oculists that it remains for us only to decide how accurate tests we wish to make, and then to select from the oculists' highly perfected instruments. There are three classes of defects in the eye that demand our first attention; namely, errors of refraction, errors in the muscles, and general weakness of the eye. The first class of errors may be

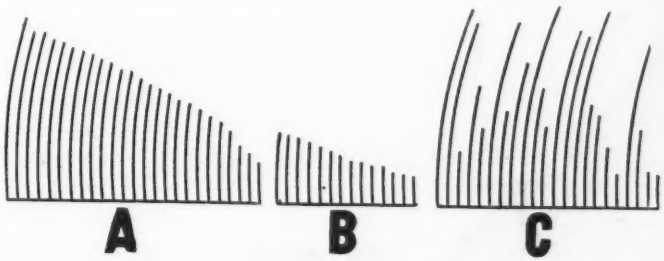

FIG. 2.

detected by the card test, the second by the Maddox rod or a prism, and the third without any instruments. But the card test is not entirely reliable. The quick diagnosis by means of the card test should be checked by use of the lenses and prisms in an oculist's test case. In no case should the diagnosis in the school tests be used for prescription of glasses. Still it is desirable to get quantitative measurements, and where numerous tests are to be made by an expert, he will find it profitable to employ some of the technical instruments, such as an ophthalmoscope, a keratomoter, a perimeter, and a phorometer. While certain eye troubles may be detected very readily even by the inexpert, recent developments in the science of the treatment of the eye show us that the complete diagnosis of eye troubles is one of the most difficult diagnoses in the practice of medicine.

One of the purposes of the school test is the detection of the evil methods resorted to in fitting glasses. More suffering comes from the wearing of misfitting glasses than from not wearing glasses where needed. In some stations of the underground railroad in London there may be seen slot machines bearing a sign to this effect: "Drop sixpence into the slot, look into the tube, and read off the number of the glasses you ought to wear."

Test V.—Hearing.—The sense of hearing is next in importance to the sense of sight. The acuity of hearing is tested by means of an audiometer. An audiometer must enable us to produce a sound of a specific character, and to vary, measure, and record the intensity of this sound. These conditions are fulfilled by the instrument shown in Fig. 3. It has been fully described by the writer in the *University of Iowa studies in psychology,* Vol. II., 1898.[1] The sound is a click produced in a telephone receiver which the child holds to the ear. It is produced by touching a key which momentarily closes and opens the primary circuit of an induction coil. The battery current is standardized by means of a galvanometer. The strength of the sound is varied and measured on the principle that, for certain given relations between the primary and the secondary coils of an induction coil, the induced current varies directly with the number of turns of wire in the secondary coil. This coil is composed of forty sections arranged in a series according to the number of turns of wire that each contains. This series varies in a geometric ratio, so that a psychological scale of intensities is obtained according to Weber's law. The complete apparatus consists of an induction coil, a dry battery, a galvanometer, a resistance coil, switches, and a telephone receiver, all but the last being built into one compact and portable piece.

The child is seated, with eyes closed, and given a forcible request to tap on his chair with a pencil every time he hears a click in the receiver. The examiner starts with a loud sound, and then takes weaker sounds in a series until he reaches the

[1] For report upon the use of the audiometer in the Chicago schools, see an article by Victor Campbell in the *Child study monthly,* December, 1900.

point where the child has failed to hear the sound for three consecutive times; he then immediately turns back, giving stronger sounds until the child has signaled that he has heard three consecutive sounds. The last of the sounds heard in going down and the first of the three consecutive sounds heard in going up are recorded. Five such double determinations are made for each ear. The average of all the determinations for one ear is the limit or threshold of hearing for that ear. It denotes his hearing-ability or acuity of hearing. It is important that the child should not become fatigued in the test; therefore, the number of steps in each trial should be as small as possible, and the child should be allowed to rest except for the moments that he is actually required to listen. Hallucinations of sound constitute a threatening source of error. The sounds are given at constant intervals of three seconds, but for purposes of control this interval may be varied sufficiently to determine whether or not the child responds at the proper time.

The average deviation of each record from the average of all the records is computed and recorded as a measure of the reliability of the test. But this record has an independent significance; it is the measure of the child's power of application and concentration of attention.

Test VI.—Discriminative sensibility for pitch.—The ability to appreciate and produce music depends upon the ear's ability to detect tone differences. Tones differ in pitch intensity and duration. Pitch is the foundation of melody and harmony as well as of tone quality or timbre. The ability to detect differences in pitch depends upon the sensory organ in the inner ear. This structure cannot be improved much by use, therefore if a child is born with an inferior structure of this organ he will live and die with an unmusical ear, altho, like the color blind, he may never become fully aware of his defect. A large proportion of the persons in any community have ears that are an absolute barrier to the appreciation of music. After the child has reached the age of six it is a very simple matter to measure exactly to what extent his ear is sensitive to tone differences.

The apparatus consists of ten small tuning forks that vary

in pitch by small differences. The standard is a′ of the international pitch, 435 double vibrations per second, and the rest are higher than this by the following number of vibrations respectively: 1, 2, 3, 5, 8, 12, 17, 23, and 30. In this part of the scale, one vibration is approximately one-fiftieth of a tone. The forks are sounded by striking them gently on a rubber cushion and then holding the tip of the prongs close to the ear for a second. Sounding boards should not be used. The standard and one higher fork are sounded about three seconds apart, and the child is required to tell which one is the higher. The examiner starts with the largest step and makes ten trials on each step, recording the number of right and wrong answers, until he has come to a step in which the child has made three or more mistakes in ten trials. The smallest step in which the child is right in eight out of ten trials, *i. e.*, eighty per cent., may be counted the limit or threshold of his discriminative sensibility for pitch. The test may be shortened by leaving out some of the large steps for good ears, and it may be made more exact by taking a larger number of trials at the threshold and calculating the location of the threshold between steps. The threshold varies greatly for different individuals, but is fairly constant in each individual after he has learned clearly to understand the meaning of pitch differences and acquired the power of concentrating attention. We have found eight-year-old children who have had no musical education, yet never failed to detect a step of one-fiftieth of a tone. We have found young ladies who, by the combination of unfortunate social circumstances, have been forced to "play" the piano, altho they are physically incapable of detecting a key that is out of tune by one-fourth of a tone. We have found adults who are incapable of hearing any melodic change of pitch in "Annie Laurie."

Upon the analysis of one hundred and ten records on adults and three hundred and eighty records on children, the writer ventures to suggest tentatively the following scale for the application of the results obtained in this test. The numbers denote the threshold in fiftieths of a tone.

A child whose threshold is 2, or under, may become a musician;

3-8 should have a plain musical education (singing in school should be obligatory);

9-17 should have a plain musical education only if some special inclinations for some kind of music is shown (singing in school should be optional);

18 or above should have nothing to do with music.

Test VII.—Discriminative action.—This is a test on the capacity for mental work. The apparatus employed is called a psychergometer, because it measures mental work. Solving problems and memorizing verses and dates are crude tests of mental capacity, but the work involved is too varied to admit of satisfactory measurement. An instrument that shall aid us in measuring mental work should aid in making the process studied definite, uniform, repeatable, and measurable. These conditions are fulfilled by the psychergometer. In its simplest form it requires the repetition of a process of discriminative action which may be indicated objectively as follows: The child has to recognize one of four signals and touch the corresponding one of four keys. There are four colored keys; a signal will be given in one of these colors and the child is required to touch the key of the corresponding color. Touching the key gives a new signal and the process may be continually repeated for any length of time without interruption.

The psychergometer will be described in Volume III. of the *University of Iowa studies in psychology.* A general statement will suffice here. The outside appearance of the apparatus is like that of a typewriter case, with the exception that the four keys are on the surface. Inside of this case there is a paper wheel which has one hundred colored disks in a continuous circle at the margin. This wheel is mounted upon a toothed wheel which carries an escapement operated by electromagnets in such a way that whenever one of the four keys is pressed it is released and the wheel is driven forward one notch by the action of a strong clock spring. There are twenty-five disks of each color, arranged by chance in the circle. Thus for each hundred trials the order of appearance is determined by chance, but is constant for every repetition of that series. Any number of series may be obtained by changing the paper

wheels, and the same series may be repeated several times before there will be any tendency to learn the order of the colors. It is evident that we here deal with a constant process of discriminative action, and that the work is continuous.

A recording apparatus is used with the psychergometer, altho it is not essential, because the time may be taken with a watch and the number of errors and the character of the action may be seen directly. The recording apparatus consists of a clockwork, which moves a telegraph tape, and five lead pencils that trace on this tape. The pencils are operated by electromagnets. One of the pencil magnets is in circuit with a half-second interrupter, so that it traces a continuous time line, the tape moving at the rate of about one-half inch per second. The magnets of each of the other four pencils are in circuit with one of the keys on the psychergometer, all four circuits being supplied by a single dry cell. Whenever a key is touched the corresponding pencil makes a jog in the straight line that it is tracing. Each record may be compared with a standard to determine the number of errors. Thus this automatic record shows, in regard to the defined mental act, (1) how many acts were performed, (2) how long time it required, (3) how many errors were made, and (4) various characteristics, *e. g.*, signs of hesitation, erratic movements, variation in the concentration of attention, etc.

Different stimuli may be used, such as letters, words, and pictures; and the mental process studied may be varied in a great variety of ways by varying the requirements for each act. The psychergometer is of special value in the measurement of changing capacity for mental work under varied conditions, *e. g.*, different periods in the program, time of the day, age, sex, influence of rest, exercise, etc.

The record for each child is kept on a suitable blank, in a very compact form. In all cases where it is possible, the results are marked on the scale of five, where A denotes apparently perfect, B the next lower degree, C the average, D the next lower degree, and E the poorest. This is the general significance of the letters, but specific values are assigned to them for each item to be marked. These records are bound, with key to the inter-

pretation, and placed in the hands of the principal. He checks all points that demand attention or are of special significance; then he makes notes of his recommendation at the bottom of the sheet. What course shall be pursued in applying the knowledge in hand must be settled for each individual case. It is the defective, the needy child that will profit, but the other is not without gain. The record of a strong, intelligent, healthy, well-cared-for child is like a beautiful picture. The teacher, the child, and the parents should know that all is well. But fancy the principal with the shortcomings of each individual child, the relations of these shortcomings to each other, to the teacher, the course, the room, the city, the home, writ large before him. There are great possibilities for action. He can act upon specific difficulties with precision and force. He may point out and discuss the specific needs of each child with the teachers. He may summon the child and give him useful information and advice, or make special requests. He may send messages to the parents. He may recommend changes in the room, the environment, the curriculum, the methods of teaching, and even in the home. Interest has been awakened by the making of the tests; there has been an awakening to the needs and the possibilities of the child; and this sentiment is now susceptible to the intelligent guidance of the principal.

The possibility of obtaining apparatus has to be considered. At the present time the purchasing of the needed apparatus for child-study is a matter of as great moment as was the purchasing of a wall chart twenty-five years ago. The reasons are various: We have not been serious in our intention to study the child; nine out of ten who are earnest in their efforts are not familiar with modern psycho-physical methods, and therefore make no demand for such apparatus; there has been no adequate outfit of apparatus on the market; there has not been a supply of well-trained experts; and—notwithstanding all manner of professions to the contrary—there is a lurking rudimentary vision of a sacred halo about the child, which by its instinctive force makes us hesitate in applying the body gauge and the mind gauge. The first matter to ascertain is whether we seriously wish to examine the child. It is not our purpose

here to exhort. Those who are capable of profiting by these suggestions need not be told that it is possible and worth while to study the child. The possibility and the value of employing scientific methods and means no one familiar with recent progress will question. The moment the demand becomes known talent will turn itself to the development of methods and means, and suitable instruments will be placed upon the market. When the work is taken up seriously the examiners can afford to use only the best means at command, and the cost of these will be trivial in comparison with the cost of labor, for the cost of an instrument is always relative to the cost of the labor which it shortens and whose efficiency it increases. The cost of the apparatus in the above series, exclusive of the sight-testing instruments, is about two hundred dollars. All of it is permanent, and some of the pieces may be employed in a variety of tests not germane to the present problem.

As an illustration of other uses of the same apparatus in child-study, we may instance the problem of determining a child's efficiency under various conditions, *e. g.*, during different periods in the program, in different seasons, at different ages, after certain training, under the influence of certain physical or mental stimuli, in different degrees of fatigue, etc. The measurements with the audiometer, the tuning forks, the ergograph, and the psychergometer vary with all such conditions, and such variation is a measure of the change in efficiency due to the condition varied, when the other conditions are controlled.

Who shall make the tests? Some of them fall within the scope of the physician's tests, where regular physicians are employed in the public schools. Springfield, Mass., has this year adopted a system of physical examinations to be made upon every child in school, and other cities are doing the same thing. Professor Royce of Harvard has suggested the appointment of a "consulting psychologist," whose mission would be in part to conduct tests of this nature. Professor Royce's plan is the best ever proposed in regard to this matter. From the nature of present developments in psychology and education, we see that the consulting psychologist is near at hand in fact if not in

name. But in nearly every case where anything has been undertaken for the child, rather than for science, teachers have done it. The ideal condition for the future will be to have examining physicians, consulting psychologists, and teachers who take an active interest in the study of the nature and needs of the child.

The value of the active participation of the teacher cannot be overestimated. It will be a part of the future teacher's duties to help determine the needs of each child under her care as well as to cater to those needs. This privilege will come to the public-school teacher as the freedom for research is now extended to the college professor. Results turned over to disinterested principals or teachers will be worse than wasted. Child-study had its beginning in the efforts of teachers; its growth and usefulness will always depend primarily upon the teacher.

What can we do until the ideal conditions shall prevail; and what can we do to bring them about? Let the work begin unobtrusively, on a small scale. Set aside a portion of the time of the superintendent, the assistant superintendent, the principal, or some other qualified teacher, and let him arrange the work. He may begin with one or more tests as he is able to enlist workers. This will reveal the needs and the possibilities of the work, and the era of the school expert will usher in itself. The school board will soon learn to know what every large corporation knows now, that the money which brings the best returns is the salary paid to the expert.

Thus far we have reported upon only the first part of our undertaking. The second relates to the actual trying of the tests in school. Here we find new factors to deal with: the skill of the experimenters, the securing of the children, the interest of the teachers, and—most important—the principal's willingness to make good use of the results.

In April and May last year the writer took a class of ten university students in child-study into the grammar school of Iowa City, and with their assistance made the tests upon one hundred and eighty children, the students assuming the rôle of teachers. The tests were made on Saturday mornings, and

the children came according to voluntary appointments with the teachers. Each student had charge of one test, and the children passed in rotation, six minutes being allowed for each test. Everyone was on duty, and the organized body moved like clockwork.

We encountered no serious obstacles—in fact, the conditions may be considered too favorable to furnish a real test of the tests. The writer had the tests well in hand; the students had been properly trained; the principal took an active part; and parents, teachers, and children showed a helpful interest. Therefore, in general, we have only to report the unanimous testimony of all who took part, namely, that the tests are well adapted and the series is practicable. The individual records and results cannot be discussed here. Some minor changes in methods and apparatus have been made, and the tests on touch, taste, and smell have been left out because they are of minor importance.

A still more extensive trial of the series is now in progress in Des Moines. Here the tests are made during school hours by teachers. All the children in two ward schools will be tested. Dr. Howe will publish the results of this investigation.

Dr. Howe and her assistants gave an exhibition of the tests in actual progress at the meeting of the Iowa State Teachers' Association in December, 1900, the writer reported these tests, and the committee of the child-study society of this body brought in a report recommending them.

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VI

DISCUSSION

THE ORGANIZATION OF GEOGRAPHY: A REPLY

All discussions, so far as they are personal, are generally unprofitable; but Professor Dodge's comments in the EDUCATIONAL REVIEW for May, upon my article in the same journal for January, seem to show such a misunderstanding of my attitude that I beg to offer a disclaimer to some of his criticisms.

However unfortunate I may have been in expressing my thought, I did not intend to go so far as to imply that any member of the committee on college entrance requirements of the National Educational Association played the part of a "boss," or "that there is any geographical monarchy in this country." I had no inside knowledge of the work of the committee, but judging entirely from the official report and the views expressed in Professor Davis's article in the *School review* for September last, it seemed to me that Professor Davis's influence was potent, if not prepotent. No one recognizes more clearly than I do the weight that his opinion has, and ought to have, among all teachers of geography; but in the *School review* he seemed to take a position so extreme that I could no longer follow him. In referring to the physiography of the South Kensington examination, Professor Davis said that "it reaches as far as spectroscopic observations of stars and nebulæ, evidently because of the presence of an astronomer on the committee in charge." The inference seems equally justifiable and inoffensive that the emphasis laid upon land forms in the report of the National Educational Association committee may be due to the fact that one of its members was so eminent a geomorphologist as Professor Davis.

The recommendations of the committee were expressly accepted as "sufficiently elastic," but a protest was offered against the further extension of the principle of exclusion employed by Professor Davis in the *School review* and in his well-

known text-book. No objection was made to the "causal study of life conditions," but a criticism was offered of the method used in that book and apparently supported by the report of the committee. The treatment of the subject of biogeography seems fragmentary, incidental, and not sufficiently systematic. To give "the impression that the report in question advocates technical geography of university grade for high schools, and that the committee advocates non-human geography," was as foreign as possible to the intent of my article. It was meant to give the impression that the geography of the committee, and to a greater degree that of Professor Davis, errs upon the side of being narrow, exclusive, and confined to a simple standpoint, and that the broad view of geography as the science of the distribution of all terrestrial features is too much out of sight, and the view of the earth as the home of man too constantly prominent.

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VII

REVIEWS

The teaching of Latin and Greek in the secondary school—By CHARLES E. BENNETT, A. B., and GEORGE P. BRISTOL, A. M., professors in Cornell University. (American Teachers Series.) New York: Longmans, Green & Co., 1901. xvi+336 p. $1.50.

This book is the first volume of the American Teachers Series, the aim of which is to discuss the educational value of each subject in the secondary-school curriculum, the grounds for its inclusion, the selection and arrangement of materials in the course, the essential features of class instruction, and the various helps which are available for teachers' use. The views presented, however, we are told, are in no sense to be regarded as final and infallible. They are rather suggestions, based, it is true, upon accurate knowledge of theory and wide observation of practice, but still suggestions rather than rules. This is made clear, not only in the admirable introductory note of the general editor, not the least sane of whose remarks is—"but the results which show up so well on paper are not in all respects satisfactory,"—but also by the authors themselves, who hold respectively that "to prescribe a definite and mechanical scheme for imparting instruction in Latin or anything else would be preposterous" (p. 211), and that "the teacher is greater than any method . . . It is the individuality of the teacher that is the efficient factor in the result, and not the virtue of the method he employs" (p. 242).

Still, the subject of the book is "Madame How and Lady Why," and their ideal government in the school course regarded as an end itself, and only incidentally, if at all, as a preparation for college (pp. 7 and 218); and it is curious and interesting to note the difference in the total impression produced by the 214 pages given to Latin and that which is gained from the 114 pages given to Greek. Each editor is of course responsible solely for his own section. Professor Bennett is

fascinated by the problems of methodology that involve whole departments of Latin work. Now it is the arrangement of the beginner's book or the handling of prose composition; now the use of the Roman pronunciation, the non-assimilation of the grammar, or the questionable value of reading at sight, that fills him with dissatisfaction and calls forth a vigorous protest. But these are all questions of a broad and general character rather than of detail. Professor Bristol is almost the reverse of his colleague. Arguments drawn from the general theory of education or from psychology, so prominent in the first part of the book, are almost wholly absent in the second. His suggestions, and they are many and acute, are largely concerned with minutiæ of treatment. Nor does this seem to be the case because he assumes that the reader is already familiar with his colleague's analyses, for in but one case, *i. e.,* when, in closing, he notes that every teacher must determine by the conditions of the special case the applicability of theory, does he refer to any discussion contained in the first part. And it is further interesting to observe that in accordance with the wise conception of the character of this series, the authors avail themselves of the privilege of holding entirely different views even on fundamental questions of theory. To Professor Bennett the chief advantage of studying Latin is the consequent increased power to use effectively one's native tongue, and he therefore subordinates in importance all other activities of the classroom to the work of exact, idiomatic, and graceful translation; to Professor Bristol "the great aim of the study of Greek is to gain the power to read Greek." On another vital point the authors differ. To Professor Bristol the æsthetic side is of high importance. "A firm hold upon the spirit of the poem (*i. e.,* Homer) is the great and all-important end" (p. 293), and he goes on with full sympathy to quote from Dr. Lange certain principles, all of them literary and artistic in their nature, which should govern the choice of selections from that poet. On page 220 he claims that "the 'Greek spirit' is the greatest thing of all. It is the goal toward which all should strive." But Professor Bennett, tho on page 34 he quotes with approval some characteristic words of Professor Shorey on this point, and later on (pp. 133 and 140) he stresses briefly

the value of the purely literary side, is yet capable of saying in all seriousness (p. 91), "To reap value from geometry it is not thought necessary that the pupil should feel a thrill of rapture over the contemplation of an isosceles triangle or an inscribed hexagon. Why should we magnify the æsthetic aim of feeling Latin any more than feeling geometry?" To many of us a perfectly simple answer will suggest itself, but—*Bennettio aliter visum.*

And this leads to the consideration of another important point on which Professor Bennett's line of reasoning seems very much open to question. No one claims, as he insists, that all students would continue their reading of Latin authors if only they were able to read at sight. The phrases used on pages 91-95 in regard to this assumed contention are all wide of the mark. That the classics "monopolize the field of culture," that all college students should "evince a profound absorption in Latin literature," should "turn to it with avidity," and "assiduously pursue" it, these are propositions of straw, the refutation of which proves nothing. This is not a case of *aut Cæsar aut nihil.* What is claimed, and certainly with some reason, is that those students who have been trained in Latin, French, and German, and who have distinctly literary tastes, would in after years, if only they could, browse in Latin literature as they do in French and German, as in fact, Macaulay, to whose custom Professor Bristol refers (p. 220-222) did browse in Greek, and that they would employ in this way *some,* not *all,* of their "leisure time" (p. 92). Admitting the superiority of Greek, one must still insist, that unless Mackail in his *Latin literature* is merely a skillful manufacturer of mellifluous phrases, there are, in spite of Professor Bennett's contention on page 94, abundant sources of refined pleasure in Latin.

There are many points, however, in which unqualified approval must be given to both authors. There is an admirable chapter on the Beginner's Latin Book, in which it is argued that the arrangement of this book, now so much in vogue, is educationally unsound; that, on the contrary, the introductory book should agree in arrangement and form of statement with the grammar; that the forms, not the syntax, should be at this stage the object of attack; and that for this purpose oral exer-

cises are far more effective than written translations of English into Latin. Both authors emphasize (pp. 144 and 241) the importance of making the grammar a book to be learned rather than (as is unfortunately apt to be the case nowadays) to be used merely as a book of reference. Professor Bristol (p. 242) is absolutely without faith in the short cuts known as "natural method," "inductive method," and so on, and tho, curiously enough, Professor Bennett shows a certain tenderness in the case of this last, he effectually disposes of its scientific status by an apt quotation from Cauer's *Grammatica militans* (pp. 83-4). Professor Bennett's section on the general points on which emphasis should be laid, and Professor Bristol's chapter on the beginning work, are both full of invaluable suggestions, *e. g.* (to mention a few), the necessity of apprehending the organic unity of a book of Cæsar or an oration of Cicero (p. 134), the interest gained for grammar by studying the origin of constructions (p. 137ff), the relative infrequency of the perfect in Greek as compared with the aorist (p. 244), and the abstract of Joost's treatment of Syntax in the *Anabasis,* with Professor Bristol's comments (p. 247ff), Professor Bristol's chapters on Homer and on composition are full of similar excellent points.

The volume should be in the hands of every teacher of either language, and, if read in a critical spirit, which is the only scientific way, it cannot fail to be productive in a high degree of fruitful thought. But this thought, in the opinion of the present writer, will certainly in three cases take the form of opposition to Professor Bennett's position:

1. That pupils should learn to read Latin at sight, in the sense and in the manner described in Professor Hale's famous paper, is probably a counsel of perfection, but the theory is certainly educationally sound, even if its practical realization be extremely difficult. That an American boy of ten may in a year's residence abroad acquire a colloquial command of French or German without any intellectual gain (p. 88) proves nothing, simply because the command has come to him thru his ears and not thru books, and precisely the same fact destroys Professor Bennett's argument about couriers (p. 20). That the imitative process urged by Professor Hale was not

educative to the Roman boy (p. 90) proves still less, for not only did he acquire the language thru his ears, but it was his native tongue. As for the difficulty of holding the mind in suspense (p. 99), everyone who learns German has to do this, and there are many English poets whose order of words is so studied that, if read aloud, they task the attention even of any English-speaking audience. The considerations—undoubtedly true—set forth on pages 96-99, as to the inherent difficulty of Latin, show, *pace* Professor Bennett, that the first three of President Eliot's educational processes (p. 22-3), observation, recording, judgment, would never cease to be called into play.

2. Professor Bennett, while insisting upon the scientific truth of the Roman pronunciation, would yet discard it in favor of the English method. He stresses the "distinct effort" needed to pronounce doubled consonants (tho it is not clear why this "effort," which must be made by everyone who studies Italian, should prove so exhausting to the student) and the difficulty of syllabication and of the lighter stress of the Latin accent (certainly negligible elements in this question). The grand difficulty, however, is the enormous number of vowel quantities which, as he plaintively says, drives even college professors of eminence to despair. One notices, however, that on page 186, where he is enthusiastically advocating his new theory of ictus, he is by no means so hopeless about the possibility of quantitative pronunciation. (Perhaps we have here a problem in the stratigraphy of the text). Rumor, too, has it that Professor Bennett himself affords ample proof of its complete realization. The matter seems to the present writer to be ultimately one involving care on the part of the teacher during the opening years of study. Too little emphasis has heretofore been laid upon absolute accuracy in quantity in all oral work on the part of the teacher as well as of the pupil. As for the question of compensating advantages, would Professor Bennett advocate the writing of Greek without accents? One positive advantage there is which Professor Bennett overlooks. Pronunciation by the Roman method is a sure indication of the spelling, while, as Professor Bristol points out (p. 226-7), in English this is often no help whatever. Add that with the

English pronunciation the reading of Latin poetry becomes impossible, as Professor Bennett himself admits.

3. Professor Bennett, as everyone knows, believes that the *ictus metricus* is simply the quantitative prominence of the long syllable. But on his own admission (p. 189), this theory, first published in the *American journal of philology* for December, 1898, is not yet generally accepted by scholars. It must be evident, therefore, that the theory has properly no place in a book of this kind. It is a question not of method, but of fact; not of the manner of presentation, but of the truth of that which is to be presented. Teachers in the secondary schools should not, therefore, be urged (p. 189) "to put it to the test of experience," so far at least as their classes are concerned, until there shall be some reasonable consensus of opinion regarding it among experts.

The bibliographical lists given *passim* are simply invaluable. But some omissions seem strange. Certainly Lane's *Grammar,* in which the translations are veritable strokes of genius, should have been mentioned on page 197 by one who holds that Latin is to be studied chiefly in order to gain excellence in English. On page 199, under topography and archæology, A. Schneider, *Das alte Rome* (Leipsic: Teubner, 1896), might well appear. And under history, a comprehensive treatment in one volume should be referred to, such as that of Dr. G. W. Botsford, which has just passed thru the press of the Macmillan Company. Furthermore, Ramsey's *Manual of Roman antiquities,* mentioned on page 198, is, with the exception of the first chapter, which Lanciani rewrote, altogether out of date, and if the English translation, unchanged since 1849, of Becker's *Gallus* is to be used at all, it should certainly be used in connection with the revision of the original by Göll (Leipsic, 1880-82).

As already stated, this volume is in a high degree helpful and stimulating. The editors rank high, and justly so, in their profession. And if somewhat vehement exception is taken to the ideas of the representative of Latin (the reviewer has read the entire book three times), this is in no sense intended to derogate from his acknowledged reputation for fine and ac-

curate scholarship. The book cannot but provoke animated discussion, and so promote progress.

NELSON G. MCCREA

COLUMBIA UNIVERSITY

A literary history of America—By BARRETT WENDELL, Professor of English at Harvard College. New York: Charles Scribner's Sons, 1900. xii+574 p. $3.00.

It would be difficult at any time to review within narrow compass a work so elaborate and so provocative of comment, favorable and unfavorable, as Professor Wendell's recent survey of American literature. The difficulty of the task is increased, however, for one who comes to it late, by the unfortunately exacerbated tone of much of the criticism that has been expended upon the book. As Professor Wendell has been thoroly frank in expressing his own views, which have not in most cases been those of his critics, the latter seem to have felt at liberty to speak their minds with a candor that would have been refreshing if it had not been too often inurbane. As a result, a reaction is created in Professor Wendell's favor, and a reviewer who, like myself, might be tempted to expostulate with him in a friendly manner for some of his statements and for his attitude toward certain portions of his subject, feels rather inclined to emphasize his many merits and to protest against the abuse and the still more reprehensible impertinence to which he has been subjected.

I do not know Professor Wendell personally, and since he has spoken most kindly of my own work, and I am myself engaged in writing a survey of our literature on much the same scale that he has adopted, it would be more becoming, perhaps, if I left the task of defending him to fitter hands. I cannot refrain, however, from pointing out in these pages devoted to the interests of American education that it is idle to expect that we shall ever become a truly cultured people until we are able to bear with equanimity the criticisms of such a writer as Professor Wendell, and until we are instinctively impelled to lay down with regret such scolding and vituperative articles and reviews as his book has inspired in many quarters. Professor Wendell's point of view may often appear to be

what his critics have claimed it is, that of a narrow and supercilious fault-finder; if this be true, it is quite clear that American literature will survive his strictures. It is not clear that American literature will long be worthy of surviving if an eminent writer can say with impunity of certain chapters of a well-known scholar's book that they are almost good enough to make a magazine editor think twice before finally rejecting them. The author of a scholarly treatise may be cited naturally and properly before a tribunal composed of scholars and competent critics; to cite him before a magazine editor as editor is gratuitously insulting. Gratuitous insults and naïve objurgations from supersensitive patriots are not, however, precisely the rewards that will most stimulate native scholarship.

But I must not let Professor Wendell's critics make me forget his book. As I have already said, it contains much with which I cannot agree; but I must hasten to add that many of its pages are nothing short of illuminative. In dealing with books and authors Professor Wendell is always interesting, altho often, in my opinion, unsympathetic, and thus either inadequate or positively misleading. For example, his treatment of Poe leaves much to be desired. It proves, I think, that not even Professor Wendell can entirely shake off the influence of the ideas his New England ancestors had with regard to art and letters, and it fails completely to account for the hold Poe has over thousands of readers both at home and abroad. On the other hand, this loyal son of Harvard seems to have written the sanest criticism of Lowell that has yet appeared. But why should we expect that Professor Wendell or anyone else should be able to deal satisfactorily with the great writers of the epoch which closed within the memories of most of us who have been reading his book? No sound British critic supposes for an instant that he can treat adequately the age of Tennyson and Browning. But the British critic has the advantage of being able to treat adequately the various epochs, some noble and nearly all interesting, that intervene between Chaucer and Byron; whereas the American critic is confined to the literature of the colonies and the early Republic—a field of labor which, perhaps more important than Professor Wendell makes it appear, is nevertheless not particularly alluring.

This is but to say that Professor Wendell, like every other historian of American literature, has essayed a thankless task. The only portion of his subject that attracts popular, or in the main even critical, interest is precisely the portion about which nearly every reader has his own opinions, which he is quite willing to have confirmed, but quite unwilling to have opposed. Thus, for example, the admirer of George William Curtis—and who does not admire him as a man?—is surprised and offended because Professor Wendell does not make more of him. Yet such an admirer can hardly have read the jejune *Potiphar papers* and *Prue and I* so recently as Professor Wendell has presumably done. But even if he has and has found them charming, he should still remember that Curtis and a large number of the other writers with whom Professor Wendell deals are still on probation, and that any treatment of them that is not lacking in urbanity should be received with urbanity. For myself I am quite willing to receive most of Professor Wendell's chapters with positive gratitude. This is especially true of the numerous chapters which are frankly devoted to history rather than to literature. These almost tempt me to wish that their author had trained himself to become a historian instead of a literary critic. Many of his speculations are as subtle and interesting as anything I have read in recent years, and I should like to commend them warmly to the readers of the EDUCATIONAL REVIEW. They are suggestive and stimulating even to one who, like myself, cordially dissents from many of the conclusions reached. It is distinctly instructive to read the criticisms passed upon American history and literature and life by an acute mind dominated by aristocratic ideals that might more naturally have been imbibed at Oxford than at Harvard. If these criticisms had come from an Englishman, they would have meant little; coming from an American who knows his facts as well as we do, but interprets them differently, they are very important. They serve to indicate, just what the criticisms of the socialists and other idealists whose gaze is directed toward the future serve to indicate, to wit, one form of the prevalent dissatisfaction with the workings of our fluctuant democratic system of government and society. To shut our eyes to either set of criti-

cisms or to rail incontinently at the men that make them, is to increase the strain upon democracy—perhaps to the collapsing point. If, on the other hand, we will constrain ourselves to listen to our censorious critics with the calmness that becomes intelligent men, we shall render ourselves all the better citizens of a democratic republic that is large enough and liberal enough to afford a home to Professor Barrett Wendell, and to any other thoughtful man capable of writing such a valuable book as his.

W. P. Trent

Columbia University

Fact and Fable in Psychology—By Joseph Jastrow. Boston: Houghton, Mifflin & Co., 1900. xvii+370 p. $1.50.

Professor Jastrow's main theme is the occult in mental life. Four of the essays deal directly with Christian science, thought transference, spiritualism, and kindred topics. Five others treat topics which are relevant to the study of the aspects of human nature which furnish either the phenomena of occultism or the interest in them. The book will perhaps disappoint anyone who desires especially to have cleared up the phenomena connected with Mrs. Piper, for Professor Jastrow does not mention them. In fact he has apparently purposely avoided hand-to-hand treatment of the concrete matters in dispute and chosen instead the general questions of the interests in the occult, the general quality of the evidence, and the logical questions involved. This wise course gives the book a value beyond its practical service as an antidote to present-day vagaries.

The book is of more specific interest to students of education than its title would warrant. The essays on "The mind's eye" and "Mental prepossession and inertia" are first-rate presentations of educational psychology, fair samples of purely psychological topics which are of importance to teachers. Moreover, the general discussion of the value of evidence and arguments is as truly, tho perhaps not as extensively, pertinent to present theorizing about education as it is to the work of the psychical researchers. In investigations of child-psychology one finds the vaguest and most erroneous notions of the mean-

ing of statistical results. In judgments about the value of methods we find intellectual prepossessions and personal interests ruinously at work. In general statements about the process of education fallacies due to the argument from analogy run rife. Professor Jastrow's book may thus serve a useful, tho perhaps unintended, function as an antidote to educational as well as occult vagaries.

EDWARD L. THORNDIKE

TEACHERS COLLEGE,
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German literature—By R. W. MOORE, Professor in Colgate University. Hamilton, N. Y.: Colgate University Press, 1900. 293 p. $1.50.

Tho the history of German literature is a long one, covering a period of more than eighteen centuries and including the study of some of the greatest works ever produced, Professor Moore has compressed into a single volume of 300 pages considerably more than an outline of German literature. The treatment follows the natural chronological divisions of the subject into old high, middle high, and new high German literature, without the perplexing cross divisions so frequently made. The omission of the historical matter which would explain the great changes in civilization indicated by the changes in German literature is made up for by an admirable chronological table, as an appendix, which gives the historical and literary events in parallel columns.

Brief biographies of the typical literary men of the period, criticism of their work, especially as related to their age, and outlines of their principal works, make up the substance of the chapters. Goethe, of course, is made the great central figure. All others are measured by his standard. In fact, "in him were united Klopstock's ability to enrich the language, Lessing's clearness of vision and bold individuality, Wieland's elegance and grace, Herder's universality, and Schiller's rhythm and rhetoric." His co-laborer Schiller, "who devoted the whole of his power to the service of the good, the true, and the beautiful," is given almost equal prominence. The revolution which raged about this "poet-pair," in which so many brilliant geniuses were lost in the flood of immorality which followed in the train of Rousseau's philosophy, is clearly pictured. The

causes and effects of all the great literary movements are cautiously detailed.

Another element of interest to the general reader is the faces and scenes in which the book abounds. Among the best of these are fine half-tones of Brausewetter's magnificent portrait of Martin Luther, of Tischbein's Goethe in Italy, of Tell's Chapel, and of Georg Ebers. The author has inserted complete outlines of the great national epics, the *Nibelungenlied* and the *Gudrunlied,* also of *Faust, William Tell,* and many lesser works. The book is one to interest all classes of readers.

ELMER W. SMITH

COLGATE UNIVERSITY

NOTES ON NEW BOOKS

These notes on books received do not preclude extended critical reviews hereafter of such of the books as in the judgment of the editor are of special importance to students of education. Any books mentioned in this list will be sent by the EDUCATIONAL REVIEW to any address on receipt of the published price.

Alexander Pope, Selections from the poetry of—Edited with an introduction and notes by Edward Bliss Reed, Ph. D., instructor in English Literature of Yale College. New York: Henry Holt & Co., 1901. xxx+246 p. 70 cents.

Books of the New Testament, The—By Rev. Leighton Pullan. New York: The Macmillan Co., 1901. viii+300 p. $1.25.

A book of much learning, but inconsiderable scholarship. Not scientific in tone or in method. Useful in a limited way for those who know nothing of the history or results of New Testament criticism.

Boy General, The: Story of the life of Major-General George A. Custer, as told by Elizabeth B. Custer. Edited by Mary E. Burt. New York: Charles Scribner's Sons, 1901. x+204 p. 60 cents.

Dictionary of educational biography, A—Giving more than four hundred portraits and sketches of persons prominent in educational work. By C. W. Bardeen, editor of the *School bulletin.* Syracuse, N. Y.: C. W. Bardeen, 1901. iv+287 p. $2.00.

No one but Mr. Bardeen would have conceived and executed the idea of a collection of annotated portraits of men prominent in educational history; for that is what this volume is. It is of great value, and we only beg that in subsequent editions the spaces at present left blank be filled out with fuller biographical material. Every library needs this book for reference.

Domestic service—By Lucy Maynard Salmon. Second edition. With an additional chapter on domestic service in Europe. New York: The Macmillan Co., 1901. xxvii+338 p. $2.00.

It is a cause of congratulation that this unique and serviceable book has gone to a second edition. Miss Salmon has brought her highly trained scientific method to the examination of a practical question of the utmost importance, educationally and socially. When education becomes general and personal ambition aroused and stimulated, where are domestic servants to be recruited? What are the social and economic conditions surrounding effective service of this type, and what tendencies do they manifest? How is prejudice against domestic service to be overcome? Can domestic servants be trained? If so, how, when, and where? There are some of the queries that suggest themselves, and Miss Salmon's study throws light on them all.

Edelsteine: Six select stories by Baumbach, Seidel, and Volkmann-Leander—Edited with notes and vocabulary by Richard Alexander Minckwitz and

Frida von Unwerth. New York: Ginn & Co., 1901. xiii+132 p.

Elementary inductive geography—By Mary R. Davis and Charles W. Deane, Ph. D. New York: Potter & Putnam Co., 1900. 228 p. 75 cents.

Why should the word "inductive" be used in the title of this text-book? It opens with a flat affirmation of the most far-reaching kind and with an illustration that corresponds to no possible object of a child's experience. It is beautifully illustrated and written in an agreeable style, but "inductive" it is not.

Experimental psychology: A manual of laboratory practice—By Edward Bradford Titchener. Volume I: Qualitative Experiments. Part II, Instructor's Manual. New York: The Macmillan Co., 1901. xxxiii+456. $2.50.

Grading of schools, The, including a full explanation of a rational plan of grading—By William J. Shearer, A. M. Fourth edition. New York: The H. P. Smith Publishing Co., 1899. 220 p.

In this book Superintendent Shearer of Elizabeth, N. J., whose intelligent and determined efforts to overcome the limitations and difficulties of the graded school, with its annual or even semi-annual promotions, are widely known, goes into the question of classification, grading, and promotion in detail, and offers a thoroly practical and helpful treatment of the entire subject.

History of Rome for high schools and academies, A—By George Willis Botsford, Ph. D., instructor in the history of Greece and Rome in Harvard University. With maps and numerous illustrations. New York: The Macmillan Co., 1901. xiv+396. $1.10.

The keynote to this admirable text-book is struck by the author in his prefatory description of its purpose: "Attention is directed not so much to the vices and intrigues of the imperial court as to the progress of mankind both in the capital and in the provinces. Wars are treated with reference to their influence on the current of history, and for the illustration of individual and national character. The admirer of Rome need not glorify conquest or conceal in any degree the failure of the republic to govern the provinces. Happily the Romans represented something better than city-sacking oppression. As organizers, administrators, and builders they were greater in peace than in war." Mr. Botsford's book is written in this spirit, and is a history of Roman civilization, not merely of Roman barbarities. We do not hesitate to pronounce it the best conceived and best written, the most wisely proportioned and most helpfully illustrated, text-book of Roman history.

How to teach reading and composition—By J. J. Burns. New York: The American Book Co., 1901. 160 p. 50 cents.

Industrial and social history of England—By Edward P. Cheyney. New York: The Macmillan Co., 1901. x+317 p. $1.40.

A very excellent text-book of the newer type. It deals with the real life of the English people, and is well illustrated. Among the topics presented are rural life and organization, town life and organization, mediæval trade and commerce, the peasants' rebellion, later economic changes, extension of government control, and the extension of voluntary association. The book is both well conceived and well written.

Lessons for little readers, supplementary to any first reader—By E. G. Regal. Boston, Mass.: D. C. Heath & Co., 1901. 104 p. 30 cents.

Manual of laboratory physics, A—By H. M. Tory, M. A., and F. H. Pitcher, M. Sc. New York: John Wiley & Sons, 1901. ix+288 p.

Modern German literature—By Benjamin W. Wells, Ph. D. Second edition, revised and enlarged. Boston: Little, Brown & Co., 1901. xi+429 p. $1.50.

Twelve chapters, including, after a description of the origins of modern German literature, studies of Klopstock, Wieland and Herder, of Lessing, of Goethe, of Schiller, of Richter and the romantic school, of Heine, and of still more recent men and tendencies. The studies themselves are judicious, scholarly, and clear.

Natural philosophy, for general readers and young people. Translated and edited from Ganot's Cours Élémentaire de physique, by E. Atkinson, Ph. D. Ninth edition, carefully revised—By A. W. Reinold. New York: Longmans, Green & Co., 1900. xii+752 pp. $2.50.

New education readers: A synthetic and phonetic method—By A. J. Demarest and William M. Sickle. Book three. Illustrated. New York: The American Book Co., 1901. 160 p. 40 cents.

Notes for teachers of English composition—By G. R. Carpenter, professor of rhetoric and English composition in Columbia University. New York: Macmillan Co., 1901. 29 p. 25 cents.

We venture to say that the amount of practical wisdom and concentrated essence of experience to be found in this little book are out of all proportion to its size. It is unreservedly commended to teachers of English in elementary and secondary schools.

Politics and the moral law—By Gustav Ruemelin. Translated from the German by Rudolf Tombo, Jr., Ph. D. Edited, with an introduction and notes, by Frederick W. Holl, D. C. L. New York: The Macmillan Co., 1901. 125 p. 75 cents.

It was a happy thought that prompted the translation and publication of this essay just at this time. It invites the reader to a high plane of political study and reflection. The learned author's argument is that politics has an ethical code of its own, and that it is by no means always subject to the moral law which governs individuals. "The separation of politics from the moral law and the ascription to it of its own principles of duty, does not necessarily imply that politics must fall altogether without the sphere of moral ideas, or come in conflict with justice and thus become positively immoral. Politics and morality, as this latter expression is commonly used, hold coördinate positions, both being included in the higher conception of ethics, or the moral law in the wider sense" (pp. 60–61).

The editor's introduction and scholarly annotations greatly increase the value of Ruemelin's striking essay.

Progress of the century, The—By Alfred Russel Wallace, William Ramsay, William Matthew Flinders-Petrie, Joseph Norman Lockyer, Edward Caird, William Osler, W. W. Keen, Elihu Thompson, Thomas Corwin Mendenhall, Sir Charles Wentworth Dilke, Alfred T. Mahan, Andrew Lang, Thomas C. Clarke, Cardinal James Gibbons, Alexander V. G. Allen, Richard J. H. Gottheil, Goldwin Smith. New York: Harper & Brothers, 1901. 583 p. $2.00.

We do not see how an intelligent reader and student can afford to pass this remarkable volume by. Of all the similar undertakings that the close of the century called forth, this is not only *facile princeps*, but the only one of permanent value. Thousands of persons who eagerly read the articles which compose this book as they appeared in successive Sunday issues of the New York *Sun* will wish to own them in this attractive and permanent form, and additional thousands to whom the original publication of the articles was unknown may now easily possess them all. Some of the articles are veritable masterpieces, notably those on evolution by Mr. Wallace, on philosophy by the Master of Balliol, and on medicine by Dr. Osler of Johns Hopkins University. There are no poor articles in the volume, tho Andrew Lang's survey of the century's literature comes dangerously near the line, and tho Mr. Flinders-Petrie permits his absorption in one part of the archæological field to throw his article out of focus. Captain Mahan on "Naval ships" is ponderous and inclined to be technical, while of the representatives of natural science, Professor Ramsay on "Chemistry," is least successful in making a difficult specialty clear. Cardinal Gibbons on "Catholicism" leaves much unsaid that one wants to know about, and Goldwin Smith, writing gracefully and lucidly on "Free thought," suggests as many questions as he answers.

It is deeply to be regretted that so important a book as this, and one that will be so deservedly influential, passes the nineteenth century in review without noticing the marvelous and epoch-making educational movement which characterized it.

Second report of the United States board on geographic names, 1890–1899—Second Edition. Washington: Government Printing Office, 1901. 150 pp.

Speech on conciliation with America, by Edmund Burke—Edited, with notes and introduction, by Daniel V. Thompson, A. M., teacher of English in Dr. Julius Sachs's School for Boys. New York: Henry Holt & Co., 1901. xlii + 122 p. 50 cents.

St. Basil the Great on Greek Literature—Edited with notes and vocabu-

lary by Edward R. Maloney. New York: The American Book Company, 1901. 86 p. 75 cents.

We welcome this book very heartily, and trust that it is only the first of a series that will help to revive interest in a period which has too long been neglected. The conflict between paganism and Christianity was thrilling and momentous, and this guide to the study of pagan literature, by a good Christian teacher to Christians, is a remarkable treatise. It would be an excellent thing if this work and others like it were read in the colleges.

Stories of pioneer life—By Florence Bass. Boston, Mass.: D. C. Heath & Co., 1901. x + 136 pp. 40 cents.

Strange peoples—By Frederick Starr. Boston, Mass.: D. C. Heath & Co., 1901. x+184 p. 40 cents.

A good volume for supplementary reading for children of from ten to twelve years of age. It describes the personal and tribal habits and customs of a number of odd peoples. The illustrations are numerous, but crudely made.

Structural principles of style—By J. D. Logan, A. M., Ph. D., professor of English and of philosophy in the University of South Dakota. Vermillion, S. D.: Willey & Danforth, 1900. 188 p. $1.00.

A study of method in writing English based upon an empirical study of how all good writers have become expert in composing and of how, even as experts, they actually do write.

Syntax of classical Greek—By Basil Lanneau Gildersleeve, with the co-opporation of Charles William Emil Miller of the Johns Hopkins University. New York: American Book Co., 1901. 190 p. $1.50.

Talks on civics—By Henry Holt. New York: The Macmillan Co., 1901. xxvi+493 p. $1.25.

Mr. Holt is the master of so lively and forceful a style that our first impression on reading this book thru (which we did) was one of regret that he had concealed his style behind a more or less artificial form of dialogue; but the dialogue is so interesting and so well-sustained, and Mr. Holt's own reasons for choosing it are so reasonable, that we are on reflection reconciled to it. His reasons for preferring "civics" to "politics" however, are not so convincing, and we very much wish that he had helped to restore the latter word to its broad, Greek signification.

The book itself is the honestest piece of work we have seen in many a day, and fascinating in its frankness and aptness of illustration. Mr. Holt has small patience with empty phrases and phrasemakers, and a hearty contempt for indirection and insincerity. He makes no concessions to the vague and the indefinite, and his logic is remorseless. He is a strong individualist and has a thoroly justified antagonism toward much of the milk-and-water stuff which nowadays parades in a scientific garb as "sociology"; but we think that his individualism needs occasional correction at the hands of institutionalism, and that his views on many points would be sounder if influenced more by Aristotle's and Hegel's supreme mastery of facts, and less by Herbert Spencer's fondness for theorizing. Nevertheless, Mr. Holt's application of the evolution theory, even in its most limited, individualistic form, is always suggestive and frequently very subtle; as, for instance, on p. 336, where he discusses the care of the defective classes.

The chapter on education bristles with views, most of them demonstrably unsound,—as we think,—and proved so by human experience. These views are, however, the logical result of Mr. Holt's theory that the state should do nothing that it can avoid doing. Holding, as we do, the opinion that it should do not only whatever it can do well, but whatever it is good for itself to do, we naturally dissent entirely from his educational doctrine. Mr. Holt implicitly follows Rousseau and Spencer in the view that the state is somehow or other "against nature," a view that Aristotle disposed of, once for all, some time ago. Conclusions of the same atomistic sort follow from Mr. Holt's premises in other chapters. His avowed indebtedness to the New York *Nation* is ominous on this point, as it is in regard to contemporary political questions generally.

Nevertheless, Mr. Holt's book is generally interesting and helpful, and every decent citizen, or every man who wants to become one, ought to read it and to think about it.

Text-book of geology, A—By Albert Perry Brigham, professor of geology in Colgate University. New York: D. Appleton & Co., 1901. 477 p. $1.50.

A worthy addition to the strikingly suc-

cessful Twentieth Century Text-books. Dynamical, structural, and historical geology are presented in that order, which is educationally sound. The illustrations are admirable.

The child: a study in the evolution of man—By Alexander Francis Chamberlain, M. A., Ph. D., lecturer on anthropology in Clark University. New York: imported by Charles Scribner's Sons, 1900. 498 p. $1.50.

This study of the child in the light of the literature of evolution is a mine of well-arranged information and an authoritative presentation of the results of the most recent research. It covers the entire field, and includes an invaluable bibliography.

Theory of numbers, Essays on—I. Continuity and irrational numbers. II. The nature and meaning of numbers—By Richard Dedekind. Authorized translation by Wooster Woodruff Beman, Professor in the University of Michigan. Chicago: Open Court Publishing Co., 1901. 115 p. 75 cents, net.

The publishers of this volume have placed scholars under great obligations to them by the issuance recently of a number of important works upon the philosophy and the history of mathematics, of which this is one. The translation is well done, and the essays themselves models of mathematical analysis and exposition.

Thinking and learning to think—By Nathan C. Schaeffer, Ph. D., LL.D., Superintendent of public instruction for the State of Pennsylvania. Philadelphia: J. B. Lippincott Co., 1900. 351 p. $1.50.

Dr. Schaeffer has shown his power in this book, by the clearness and connectedness with which he puts the art of thinking before teachers. His practical suggestions are most helpful, and the tone of the book is sane.

Thorough study of a masterpiece of literature—By Bernard Cronson, P. S. No. 65, New York. New York: New Education Publishing Co., 1901. 44 p.

This pamphlet offers a thoro and practical plan for the presentation of a literary masterpiece to a student. It is Herbartian in form and in spirit, and makes skillful use of the formal steps in teaching.

Up from slavery: an autobiography—By Booker T. Washington. New York: Doubleday, Page & Co., 1901. 330 p. $1.50.

This record of forty-two years of progress from a slave cabin to a foremost place in the heart and the confidence of the American people is a fit companion to the story of the life of Abraham Lincoln. It is truly and typically American, in the best and highest sense of that much-abused word. Its simple eloquence and inspiring account of insuperable obstacles overcome, and of impossible achievements accomplished, will give it a place among the life-records which the world will not forget and which enlighten and uplift generation after generation. May its writer long be spared to give the American people his invaluable aid in the solution of that one of their two or three most vexed and perplexing problems which he has made his own!

Wheeler's graded readers—By Gail Calmerton and William H. Wheeler. Chicago: W. H. Wheeler & Co., 1901. 128 p. 30 cents.

Wigwam stories—told by North American Indians—By Mary Catherine Judd. With illustrations by Angel de Cora. Boston: Ginn & Company, 1901. ix+276 p. 65 cents.

These are charming stories of the North American Indians, simply told. The plentiful illustrations greatly increase the value of the book to children.

Writings of King Alfred, The—By Frederic Harrison, M. A., Honorary Fellow of Wadham College, Oxford. New York: The Macmillan Co., 1901. 32 p. 25 cents.

Mr. Harrison's fine literary style is here used to interest the reader in King Alfred as a man of letters, in anticipation of the celebration, soon to occur, of the one thousandth anniversary of his death. The address in its present form was delivered at Harvard University in March last. "By virtue of his noble simplicity of nature," says Mr. Harrison of King Alfred, "this warrior, this ruler, this hero, achieved a literary fact; for he created a prose style five centuries before Chaucer, seven centuries before Shakspere or Bacon, eight centuries beefore Addison or Defoe, and the full mastery of English prose."

VIII

EDITORIAL

Religion and Education

There is no mistaking the signs that the question of religious instruction in education is about to become a very pressing one. The discussion in the French Chamber of Deputies, culminating with the remarkable speech of M. Bourgeois, the general dissatisfaction in England with the practical results of the compromise entered into in 1870, and the increasing activity in the United States of those earnest persons who believe in state aid for schools maintained by religious bodies and in their interest, all bear evidence of this fact. It will be difficult, doubtless, to carry on a public discussion of a topic which touches the emotions so powerfully and so directly, without bitterness and without frequent and violent misunderstanding; but it must be carried on, nevertheless, and it behooves those who are to engage in it to guide the discussion to questions of principle rather than of detail and in a spirit of reason rather than of passion.

The situation in England and in the United States is reversed. In England the advocates of state-aided religious teaching are in a majority apparently, and their activity and influence can and doubtless will prevent the establishment of any single educational agency, such as the American local board of education, charged with the care of all public education, elementary and secondary, general and technical.

The courts have recently held in the now celebrated Cockerton case, that the school board act of 1870 had in view elementary education only, and that school boards, under that act, are not justified in using public funds for secondary or technical instruction. In this decision the English courts have taken diametrically opposite ground to that taken by the supreme court of Michigan years ago, in the so-called Kalamazoo case, in which it was held that nothing in our public

policy or in the law restricted the amount or kind of instruction which a local school board might offer, provided only the voters were willing to pay for it. This decision is determinant in American public education, and as a result of it the United States is in position to point out to England that a sound and effective elementary school system is quite impossible unless a secondary school system be organically united with it under the same administrative oversight. But if the damage done by the Cockerton decision is to be repaired by legislation, the debates in Parliament that will ensue will speedily show that a very powerful party is opposed to developing public secondary education, and especially opposed to any extension of the powers of the school boards, primarily for reasons connected with the religious question. In view of what is sometimes proposed in the United States, the educational discussions in England in the immediate future will be full of suggestion and interest for American students.

In the United States, on the other hand, public education is unrestricted and universal, and wholly secular. It can never be made otherwise. Here, therefore, the problem presents itself in a different form, and may be stated thus, Shall the state aid with its funds schools other than the present public schools—schools, that is, maintained primarily for the purpose of including a specific type of religious teaching in the curriculum? A single line giving power to the board of education to appropriate public money to private schools recently found its way, tho plainly unconstitutional, into the revised charter of New York City, and such a storm of protest was raised that it was taken out again in a hurry. There is little reason to doubt that a similar proposal in any other State would have a similar reception. But—and this is the point which is so often overlooked—the question of religious instruction in education remains unsolved.

Nor is the situation helped by reducing religion to a type of ethics, as some propose. Religion is not only faith, but dogma; not only conduct, but worship; and to identify it with ethics is not to simplify the matter any, but rather to complicate it by adding a new variety of religion which must be provided for.

From our point of view, only two lines of action are at all

possible: (1) to take the view held by many Roman Catholics and Lutherans, that the school itself must be religious, not secular, and that religious schools should be state-aided; and (2) to take the view that education transcends the school, and so while the school may remain secular, its work must be supplemented, if education is to be complete, by religious instruction to be given by other educational agencies, notably the family and the Church. The alternative is to destroy the completeness of education by omitting religion altogether.

Of the two possible lines of action named the latter is, in our view, the preferable one. It recognizes the function and also the limitations of the school, and provides for the active interest and co-operation of two other supremely important educational factors, the family and the Church. Education is, of course, a unitary process, but it is no less unitary because several agencies co-operate in it. The former view runs counter to some of the deepest-seated convictions of the American people, and also mistakes, it seems to us, the proper educational function of the school. It is for these reasons that we do not believe that this view can prevail or that it ought to prevail. It must be said, however, that it gains sympathy in some quarters from the fact that Protestant churches are as a rule shockingly lacking in any appreciation of their educational responsibility, and also, apparently, in any capacity to rise to it.

Confessions of a Psychologist

No more interesting article has recently appeared in any magazine than that in which, under the caption "Confessions of a psychologist," President Hall of Clark University tells in the *Pedagogical seminary* for March, with a charming frankness and freedom, the story of his own experiences and reflections as a university teacher. Incidentally President Hall weaves into the story an account of the evolution of his own present views on matters psychological, educational, and philosophical, and a series of criticisms of the teachings and practices to which he takes most emphatic exception. The article itself is so redolent of strong personality and so admirably written that it will not bear either compression or sampling. On no account

should anyone who cares for the serious matters of education miss reading every line of it.

The reflections which President Hall's "confessions" provoke are many, and a few of them may perhaps be set down in as impersonal a manner as possible.

In sharp contrast with most specialists, President Hall began his teaching career with a strong interest in education as such, and that interest has deepened with the years of added experience. He is and has always been primarily a psychologist, yet his psychology has never, we think, been an end in itself, but rather a highly tempered instrument for the use of education, individual and racial. The besetting fault of the modern university specialist is that his work begins nowhere and ends nowhere. He lacks breadth of view, a sense of the relation of his own studies to those of his colleagues, and of all their studies to life and to thought as a whole. Too often his addition to the sum total of human learning is infinitesimal, but, small as it is, large enough to have crushed and stunted his humanity. The price paid for such a contribution is many times too great. Not long ago the chief of a band of active workers in a rapidly developing branch of natural science was urged to have prepared a series of lectures on the general tendencies and interpretation of the advances being made in his department, for the benefit of a large body of university teachers and students. His reply was pathetic: he said that neither he nor any of his colleagues was competent for such a task. The only parallel that suggests itself is one with unskilled laborers toiling mechanically at the bottom of a pit upon some great engineering work, and neither asking, wondering, nor caring what it is all for, what ends are to be served by it, and what part they themselves are playing in the task of construction. Such are too many of the gifted men who spend anxious and busy years upon minute portions of a problem in physics, in biology, in philology, or in any other department of scientific activity. President Hall has surely not been of this class, but has constantly reflected, as he went along, upon the significance of what was accomplished. That he has altered his views of the philosophic interpretation of things is of small consequence beside the fact that he has sought such an interpretation, and

so has been an example to many men of science cast in a narrower mold. And is not this trait due to his early studies in just those fields that are now often referred to so slightingly?

It has been said of John Locke that he built his philosophy upon a metaphor taken as a fact. We cannot help thinking that the same is true of President Hall's ecstasy over "research," "contributions to knowledge," "standing at the boundaries of human learning," and so on. All of these terms and phrases and many others like them are current in university life, and are coming to mark a sort of academic cant which is quite unworthy. By "research" and "investigation" are meant, and can only be meant, in the vast majority of cases, just "study," and nothing more or less. Anyone who will put upon himself the terrible burden of examining five hundred dissertations sent in from American and European universities can convince himself of this in a relatively short time. One might say of Aristotle or of Newton or of Shakspere or of Darwin that he stood at the boundary of human knowledge in a serious and solemn sense; but to make the same assertion of the hundreds of competent university teachers, or still more of the thousands of callow youths who are plodding away on doctor's dissertations the world over, is ludicrous. Indeed, it is a positive wrong to those men to lead them to feel that they are competent to add to the sum total of human knowledge anything whatever. Such a conception, once it finds lodgment in their minds, puts them in a totally false relation to human history and to human philosophy. They infinitely exaggerate their own importance and the value of their little undertakings, and tend to assume a cynical and pessimistic attitude toward historic learning. One would think that a proper reverence for the imposing facts of evolution would keep a student from this fault, but it does not.

We cannot help thinking that what President Hall has in mind when he writes so sweepingly of "research," is the legitimate distinction between productive and unproductive scholarship, between the learning which finds application and expression and that which does not, between the student who merely absorbs and him who gives out and accomplishes. This distinction is vital, but it does not mean anything so orotund as

research in the epoch-making sense. Again, it must be borne in mind that productive scholarship and printing are very far from being identical. The highest type of productive scholarship in our day finds its expression thru will-work in institutions, great and small. American universities are pre-eminent in training men for this high service, and no German university or score of German universities can compare with them. It is thru missing this point that Professor Münsterberg writes as he does regarding productive scholarship in America. He has his eye so fixed on the fact-knowledge which finds expression in printing that he does not see the infinitely more valuable will-action which finds expression in new, more refined, and more subtle forms of institutional life. To be perfectly concrete: Mr. J. Pierpont Morgan so distinguished himself as a student of mathematics at Göttingen that he was urged to accept a docent-ship there. Suppose he had done so; what addition to mathematical knowledge which has been made in the last forty years, had it been made by him, could compare with his contributions to human knowledge in the field of will-work? Presidents Eliot, Gilman, and Harper are not *Forscher,* as that term is used in Germany, but their scholarship has been productive in an astonishing degree. There was a time when knowledge was so constricted that new facts and more facts, however minute, were the supreme need of humanity; that time is not to-day. Fuller, richer, deeper, truer interpretations, and new and more effective combinations of human minds and human effort are our chief need. The scholarship which contributes to these is productive in the highest and best sense. It is the glory of American universities that they are training men and women for this service. There is a search for truth of the will that is loftier than the search for truth of the intellect.

It is hard to resist the impression that President Hall is not so familiar with the American universities as with those of Germany. We feel sure that he might have drawn unmistakable illustrations of several of his chief points from recent American experience. The German universities rendered America their best service between 1840 and 1880. At present, as Professor Bernheim of Greifswald and others are saying, those universi-

ties are themselves in need of far-reaching reforms, and we can only imitate their methods and practices at our peril.

An Important Address

Buried deep down in the *Publications of the modern language association* is the very striking presidential address delivered before that body in December last by Professor Thomas R. Price of Columbia University. Professor Price's subject was "The new function of modern language teaching," and it may well be doubted whether any other living scholar could have delivered an address on that subject with so much of power, of genuine feeling, and of suggestiveness. It has been Professor Price's good fortune to be a specialist in an ancient and a modern tongue, and both the extraordinary range and the high quality of his scholarship are well known.

Professor Price's argument is that the dropping out of Greek as an obligatory subject from liberal courses of study, and the greatly increased importance of English, French, and German, have thrown upon these modern languages the responsibility of furnishing to students, what the study of Greek formerly furnished, the models and ideal of literary form. In an eloquent passage he points out how the study of Greek brought with it, of necessity, the definitions and practical conceptions of definite forms of literary art, and adds:

"From the days of the early humanists on past the mid-epoch of our own century, this influence of Greek literature upon the student-mind, in revelation of literary form, went on deepening. It was this influence that, acting thru Coleridge and Shelley, thru Tennyson and Arnold, and Swinburne and Browning, gave form and charm to the literature on which our century was nourished. And, until this movement was checked, this Greek influence, as essential part of university culture, acted, more or less deeply, not only upon picked young men as a special class, but upon all the college-bred men of our Western world.

"Wherever this Greek learning made itself felt, there was the communication to the student-mind of the simplest and most beautiful forms of literature. There was the standard

of comparison; there was the sense of form. If now, this influence were checked, might there not arise for our student-body, as a possible danger, the loss of literary feeling, the loss of the delicate sense of literary form?"

This is the question that Professor Price presses home upon modern language teachers, as he asks them to aim more and more at the ideal which the teaching of Greek literature so fully attained. He points out again and again, in happy phrase and with abundant illustration, the supreme importance of the form of literature, and fixes as the standard to be observed in modern language teaching the presentation of each model of literature in such a manner as to exhibit, so far as possible, "that charm of pure form by which each special work becomes in its own special way a type and model of beauty."

The whole address seems to us to be marked by both power and singular charm.

Notes and News

Unfortunately Mr. Fabian Ware of London, shortly after accepting an invitation to address the National Educational Association at Detroit, was ordered to report for government service in South Africa, and so will be unable to keep his engagement. His place will be taken, however, by Cloudesley S. H. Brereton, Esq., whose distinguished services in connection with education at the Paris Exposition of 1900 are well known.

The committee, appointed at Washington in 1898, to examine the question of a national university and to report to the Council, are understood to have completed their report at a meeting held in New York on May 23 and 24. This report will be presented to the Council at Detroit on July 9.